



Five - Year Review Report

Second Five - Year Review Report

for

The Summit National Superfund Site

Deerfield

Portage County, Ohio

September 2003

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Approved by

Date:

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9/22/03

Five - Year Review Report

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List of Acronyms

ARAR	Applicable or relevant and appropriate regulation
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
CFR	Code of Federal Regulations
CWA	Clean Water Act
C-56	Hexachlorocyclopentadiene
EPA	Environmental Protection Agency
LIU	Lower intermediate unit
NCP	National Contingency Plan
NPL	National Priorities List
OMMP	Operation, Maintenance and Monitoring Plan
PCB	Polychlorinated biphenyl
PRP	Potentially Responsible Party
PTI	Permit to Install
RA	Remedial Action
RAO	Remedial Action Objectives
RCRA	Resource Conservation and Recovery Act
RD / RA	Remedial Design / Remedial Action
ROD	Record of Decision
SNFT	Summit National Facility Trust
SNLD	Summit National Liquid Disposal Service
SNS	Summit National Superfund Site
SPCC	Spill prevention control and counter-measure
SSIPL	Site-specific indicator parameter list
SVOC	Semivolatile organic chemical
TAL	Target analyte list
TCL	Target compound list

UAO	Unilateral administrative unit
UIU	Upper intermediate unit
VOC	Volatile organic chemical
WTU	Water table unit

Executive Summary

The Summit National Superfund Site (SNS) is an 11 acre property in Deerfield, Ohio. The Site was a strip mine, coal washing and coal storage operation prior to 1974. From 1974 to 1978, the then Summit National Liquid Disposal Service (SNLD) was used for liquid industrial waste storage, disposal and incineration. SNS accepted waste oil, sludges, resins, pesticides, plating waste, solvents, polychlorinated biphenyls (PCBs) and other wastes during this period. The Ohio EPA ordered SNLD to cease operation in June 1978. A surface cleanup, including removal and off-Site disposal of 17,000 drums, was completed in June 1982. SNS was placed on the National Priorities List (NPL) on September 8, 1983. The Remedial Investigation and Feasibility Study (RI/ FS) were conducted from February 24, 1984 to June 30, 1988. Potential health risks were found to exist for exposure to contaminants in soil, sediment, surface water and groundwater.

A Record of Decision (ROD) was issued by the U.S. EPA, with the concurrence of the Ohio EPA, on June 30, 1988 and a revised ROD was issued on November 2, 1990. The ROD required excavation and on-Site incineration of contaminated soils and sediment, and the contents of several hundred buried drums, extraction and on-Site treatment of contaminated groundwater, treatment of on-Site surface water, fencing and placing a clean soil and vegetative cover over the Site. An Explanation of Significant Difference (ESD) was issued by the U.S. EPA, with Ohio EPA concurrence, on March 23, 1992. The ESD modified the ROD by adding the Toxic Substance Control Act (TSCA) as an Applicable or Relevant and Appropriate Regulation (ARAR) for soil incineration, due to the presence of polychlorinated biphenyls (PCBs) in excess of 50 parts per million.

The trigger for this second Five-Year Review was the completion date of the first Five-Year Review for the Site. The first Five-Year Review concluded that the remedy was executed in accordance with the requirements of the ROD, as amended by the ESD, and was protective of human health and the environment.

This second Five-Year Review concluded that the remedy is expected to be protective of human health and the environment upon attainment of the groundwater cleanup goals, which is expected to require 20 years to achieve. In the interim, exposure pathways are being controlled and institutional controls are preventing exposure to contaminated groundwater. Exposure to contaminated soil at the Site has been addressed by incinerating the most heavily contaminated soils, applying a cover of clean soil, a vegetative cover, fencing and institutional controls. Long term protectiveness of the remedy will be verified by continuing the annual groundwater monitoring, quarterly hydraulic monitoring and monthly monitoring of influent and effluent quality of the on-Site groundwater treatment plant.

Five-Year Review Summary Form

SITE IDENTIFICATION		
Site name: Summit National		
U.S. EPA ID: OHD980609994		
OHIO EPA ID: 267-0779		
Region: 5	State: Ohio	City/County: Deerfield / Portage
SITE STATUS		
DNPL Status: <input checked="" type="checkbox"/> Final <input type="checkbox"/> Deleted <input type="checkbox"/> Other (specify)		
Remediation Status (choose all that apply): <input type="checkbox"/> Under Construction <input checked="" type="checkbox"/> Operating <input type="checkbox"/> Complete		
Multiple OUs?* <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Construction completion Date: 8/23/95	
Has site been into reuse? <input type="checkbox"/> YES <input checked="" type="checkbox"/> No		
REVIEW STATUS		
Lead agency: <input type="checkbox"/> U.S. EPA <input checked="" type="checkbox"/> State <input type="checkbox"/> Tribe <input type="checkbox"/> Other Federal Agency		
Author name: Sig Williams		
Author Title: Site Coordinator	Author affiliation: Ohio EPA / Northeast District Office	
Review period:** 1/2/03 to 9/2/03		
Date(s) of site inspection: 8/4/03		
Type of review: <div style="text-align: center; margin-top: 10px;"> <input checked="" type="checkbox"/> Post -SARA <input type="checkbox"/> Pre-SARA <input type="checkbox"/> NPL-Removal only <input type="checkbox"/> Non-NPL Remedial Action Site <input type="checkbox"/> NPL State/Tribe-lead <input type="checkbox"/> Regional Discretion </div>		
Review number: <input type="checkbox"/> 1 (first) <input checked="" type="checkbox"/> 2 (second) <input type="checkbox"/> 3 (third) <input type="checkbox"/> Other (specify)		
Triggering action: <input type="checkbox"/> Actual RA On-site Construction at OU # _____ Actual RA Start at OU# _____ <input type="checkbox"/> Construction Completion <input checked="" type="checkbox"/> Previous Five-Year Review Report <input type="checkbox"/> Other (specify)		
Triggering action date: 9/23/98		
Due date (five years after triggering action date): 9/23/03		

*["OU" refers to operable unit]

**[Review period should correspond to the actual start and end dates of the Five-Year Review in Waste LAN.]

Five - Year Review Report

I. Introduction

The purpose of five-year reviews is to determine whether the remedy at a site is protective of human health and the environment. The methods, findings and conclusions of such reviews are documented in the site-specific Five-Year Review Reports. In addition, Five-Year Review Reports identify issues, or deficiencies, if any, found during the review process for the site and provide recommendations to address or correct them.

The Ohio Environmental Protection Agency (Ohio EPA) is preparing this Five-Year Review for the United States Environmental Protection Agency (U.S. EPA) pursuant to the Comprehensive Environmental Compensation and Liability Act (CERCLA) § 121 and the National Contingency Plan (NCP). CERCLA § 121 states:

If the President selects a remedial action that results in any hazardous substances, pollutants, or contaminants remaining at the site, the President shall review such remedial action no less often than each five years after the initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented. In addition, if upon such review it is the judgment of the President that action is appropriate at such site in accordance with Section [104] or [106], the President shall take or require such action. The President shall report to the Congress a list of facilities for which such review is required, the results of all such reviews, and any actions taken as a result of such reviews.

The U.S. EPA interpreted this requirement further in the NCP; Chapter 40 Code of Federal Regulations (CFR), § 300. 40CFR 300.430(f)(4)(ii) states:

If a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for unlimited use and unrestricted exposure, the lead agency shall review such action no less often than every five years after the initiation of the selected remedial action.

The Ohio EPA has conducted a Five-Year Review of the remedial actions implemented at the Summit National Superfund Site (SNS), also known as Summit National Liquid Disposal Service (SNLD) and as the Deerfield Dump, located in Deerfield, Ohio. The review was conducted for this Site from January 2003 to August 2003 by the Ohio EPA Site Coordinator. This report documents the results of the review. As part of this review, the Site Coordinator determined that no additional data collection was necessary to evaluate the current Site status, since regular monitoring and data reporting is required by the Operation, Maintenance and Monitoring Plan (OMMP) for the Site.

This is the second Five-Year Review for the SNS Site. The first Five-Year Review Report was submitted by Ohio EPA to U.S. EPA on September 23, 1998, it was

finalized on October 21, 1998. The triggering action for that statutory review and was the start of Remedial Action (RA), June 22, 1993. This Five-Year Review is required due to the fact that hazardous substances, pollutants or contaminants remain at the Site above levels that allow for unlimited use and unrestricted exposure.

II. Site Chronology

Table 1: Chronology of Site Events

Event	Date
Site operates as strip mine, coal wash and coal storage facility	Prior to 1974
State issues incinerator permit	1974
Facility accepts waste in drums and tank trucks	1974 to 1978
Ohio notifies facility of CWA violations	1976
Ohio issues orders to facility to cease receiving waste and cleanup site	1978
Negotiations for surface cleanup of drums, U.S. EPA removes 7500 gal. C-56	1979 to 1980
Surface cleanup, removal of 17000 drums and tank contents under agreement with Ohio EPA and some of the PRPs	1981 to 1982
Proposed listing to NPL	12/30/82
Preliminary Assessment completed	1/1/83
Final listing on NPL	9/8/83
Combined RI/FS	2/24/84 to 6/30/88
Unilateral Administrative Order	2/15/87
Removal Action	3/26/87 to 5/19/88
ROD signed	6/30/88
RD/RA negotiations	11/22/87 to 1/10/90
Administrative order on consent	8/17/90
Amended ROD	11/2/90
Effective date of Consent Decree	6/11/91

Sediment removal interim response action	10/91
Pre-Design investigations	10/91 to 12/91
Final Design approved	6/22/93
Construction mobilization	7/22/93
Completed Phase I, II and III well installation and abandonment	12/30/93
Completed commissioning of groundwater treatment system	5/16/94
Commenced treatment and discharge of groundwater from wet well excavation	6/9/94
Performance demonstration burn for incinerator	9/8/94 to 9/9/94
Completed pipe and media drain installation	9/9/94
Commenced on-Site incineration of Site soils	9/28/94
Commenced groundwater hydraulic monitoring	11/7/94
Conducted startup round of groundwater sampling	11/7/94 to 11/17/94
Revised inorganic discharge limits for groundwater treatment plant from Ohio EPA	11/22/94
Commenced extraction of groundwater from intermediate unit extraction wells	12/1/94
Completed on-Site soil incineration	4/3/95
Shut down extraction wells	5/9/95
Commenced installation of final Site cover	6/1/95
Installed additional monitoring wells, abandoned extraction wells	6/19/95 to 7/18/95
Pre-final site inspection	7/28/95
Completed final Site cover	8/4/95
Final Site inspection	8/23/95
Preliminary Closeout Report	9/18/95
SNFT submitted Notice of Completion of Remedial Action, Remedial Action Report, and OM&M Plan to agencies	11/2/95

Completion of First Five-Year Review Report by Ohio EPA	9/23/98, finalized 10/21/98
Site inspection for second Five-Year Review	8/4/03

III. Background

Physical Characteristics

The Summit National Site is located at 1240 Alliance Road in Deerfield Township, Portage County, approximately 45 miles southeast of Cleveland, Ohio. It is a roughly rectangular property at the southeast corner of the intersection of Ohio Route 225 and U.S. Route 224. Prior to the remedial construction, the Site contained the remains of a coal tippie and a scale house in the northwest corner, two dilapidated buildings in the northeast corner, the abandoned incinerator and two small buildings in the southeast corner and two ponds (referred to as the east pond and the west pond) across the center of the property. All of these features were removed during the final cleanup.

Portage County is in the northwestern portion of the glaciated Allegheny Plateau and lies on the divide between the Lake Erie and the Ohio River drainages. The hydrogeology of the Site is complex, the strata at the Site have been characterized as three separate hydrogeologic units; the water table (WTU), the upper and lower intermediate units (UIU and LIU) and the Upper Sharon aquifer. The WTU is generally from 5 to 12 ft. below grade and flows to the southeast. Groundwater in the UIU flows generally southeastward and in the LIU it flows westward. The Upper Sharon aquifer flows to the north.

Land Use and Resources

The 11.5 acre Site was formerly, prior to 1974, a coal strip mine and contained a coal wash pond and coal stock pile. The Site was used for storage and disposal of industrial waste and incineration of liquid waste from April 1974 until June 1978. The Site is bordered by a skating rink, a school bus storage facility and a residence to the north, a permitted solid waste landfill to the west, an undeveloped brushy wooded area to the east, and a commercial concrete facility and an old un-permitted landfill to the south. The surrounding area is a mix of commercial, agricultural and residential properties. Approximately 4,500 people live within three miles of the Site. Surface water and shallow groundwater in the vicinity of the Site flow to the southeast, toward the Berlin Lake reservoir, which is a standby water supply for the city of Youngstown.

History of Contamination

During the period from April 1974 through June 1978, the facility, then known as Summit National Liquid Disposal Service (SNLD), accepted liquid wastes including oil, polychlorinated biphenyls (PCBs), resins, sludges, pesticides and plating wastes. Some wastes were mixed with flammable liquids and incinerated on-Site, others were

stored in above-ground and underground storage tanks, drums or dumped on the ground.

In June 1973, the owner, Mr. Donald Georgeoff, obtained a Permit to Install (PTI) for an incinerator. In April 1974, the Ohio EPA issued an operating permit for SNLD. In June 1975, the Ohio EPA investigated a complaint of an unauthorized discharge of waste water. At Ohio EPA's request, U.S. EPA conducted an investigation of the Site on October 29, 1976. Evidence of numerous leaks and spills was found. The owner was notified of the need for a Spill Prevention Control Plan (SPCC) and in December 1976, he was notified that he was in violation of state laws regarding treatment and disposal of industrial wastes. The Ohio EPA Director issued Final Findings and Orders to the facility on June 12, 1978, requiring it to cease receiving waste materials, remove all liquid waste from the Site, and to receive written approval prior to removing any material from the Site. No further waste was received after that date:

On March 15, 1979, Mr. Georgeoff sold the property to Mr. Angelo Sottanti. On June 28, 1979, Mr. Sottanti sold the property to Mr. John Vasi. The property is still owned by Mr. Vasi.

Initial Response

In August 1979, the State of Ohio filed a complaint against Mr. Georgeoff, Mr. Sottanti and Mr. Vasi alleging the operation of a solid waste disposal facility without a permit, creation of a public nuisance, failure to comply with orders from Ohio EPA and installation of facilities for the storage and disposal of liquid wastes without submitting plans to the agency. After an investigation confirmed the presence of more than 7,500 gallons of hexachlorocyclopentadiene (C-56), U.S. EPA informed Mr. Vasi that remedial action was being planned pursuant to Section 311 of the Clean Water Act (CWA). Mr. Vasi declined to take action or to fund a cleanup, so U.S. EPA funded the cleanup of C-56 waste in September through November 1980.

From early spring to late fall of 1980, the Ohio EPA fenced the Site, graded the surface to control surface water run on and runoff, identified the contents and staged about 2000 drums, characterized the contents of several bulk tanks, and installed two on-Site and four off-Site monitoring wells.

During 1980 and 1981, some of the companies that had brought waste to the Site identified themselves and voluntarily removed their wastes.

In November 1980, an agreement was reached among the State of Ohio and eight generators that provided \$2.5 million for a surface cleanup. The cleanup operation included removal of 17,000 drums, bulk tanks, the concrete pit and its contents, surface debris and a small amount of contaminated soil. The surface cleanup was concluded in June 1982.

During the spring of 1987, the U.S. EPA Region 5 Emergency Response Section responded to an emergency situation involving periodic overflows from the east pond to an adjacent residential property. The response included the removal of a buried tank near the incinerator.

Basis for Taking Remedial Action

Hazardous substances and other contaminants that have been released at the Site in each medium include a variety of volatile organic chemicals (VOCs), semivolatile organic chemicals (SVOCs), pesticides, polychlorinated biphenyls (PCBs) and inorganic chemicals (metals). The contaminants are shown below for soils (Table 2), sediments (Table 3), surface water (Table 4) and groundwater (Table 5).

Table 2: Contaminants found in soils.

VOCs	SVOCs/ Pesticides / PCBs	Inorganics
Methylene chloride Acetone Carbon disulfide 1,1-dichloroethene 1,1-dichloroethane Trans-1,2-dichloroethene 1,2-dichloroethane 2-butanone (MEK) 1,1,1-trichloroethane Trichloroethene Benzene 4-methyl-2-pentanone Tetrachloroethene Toluene Chlorobenzene Ethylbenzene Xylenes (total)	Phenol, 1,4-dichlorobenzene 1,2-dichlorobenzene Isophorone 1,2,4-trichlorobenzene Naphthalene 2-methylnaphthalene Fluorene Hexachlorobenzene Phenanthrene Di-n-butylphthalate Butylbenzylphthalate Bis-2-ethylhexylphthalate Di-n-octylphthalate Indeno(1,2,3-c,d)pyrene Dibenz(a,h)anthracene Benzo(g,h,i)perylene 4,4-DDT PCBs (total)	Arsenic Barium Beryllium Chromium Copper

Table 3: Contaminants found in sediments.

VOCs	SVOCs / Pesticides/ PCBs	Inorganics
Methylene chloride Acetone 1,1-dichloroethene 1,1-dichloroethane Trans-1,2-dichloroethene 1,2-dichloroethane 1,1,1-Trichloroethane Trichloroethene 2-butanone Toluene Benzene Ethylbenzene Chlorobenzene Xylenes (total)	N-nylamine Hexachlorobenzene Di-n-butylphthalate Bis-2-ethylhexylphthalate Di-n-octylphthalate PCBs(total)	Barium Chromium Copper Mercury Cyanide

Table 4: Contaminants found in surface water.

VOCs	SVOCs /Pesticides / PCBs	Inorganics
Methylene chloride Acetone 1,1-dichloroethane 1,2-dichloroethane 2-butanone (MEK) 1,1,1-trichloroethane 4-methyl-2-pentanone Tetrachloroethene Loluene Chlorobenzene Xylenes(total)	Phenol Aniline 1,4-dichlorobenzene 1,2-dichlorobenzene Hexachloroethane Isophorone Benzoic acid Bis-2-ethylhexylphthalate Benzo(b)fluoranthene Benzo(k)fluoranthene Benzo(a)pyrene Indeno(1,2,3-c,d)pyrene Dibenz(a,h)anthracene Benzo(g,h,i)perylene	Arsenic Barium Beryllium Cadmium Chromium Nickel

Table 5: Contaminants found in groundwater.

VOCs	SVOCs / Pesticides / PCBs	Inorganics
Methylene chloride Acetone 1,1-dichloroethane (DCA) 1,2-dichloroethane 2-butanone 1,1,1-trichloroethane (TCA) Trichloroethane 4-methyl-2-pentanone Toluene Ethylbenzene 1,1-dichloroethene (DCE) Trans-1,2-dichloroethene Benzene Xylenes (total) Tetrachloroethene (PCE)	4-methylphenol 2,4-dimethylphenol 4-chloro-3-methylphenol Phenol Isophorone Naphthalene 2-methylnaphthalene Bis-2-ethylhexylphthalate Pyrene Dimethylphthalate Di-n-octylphthalate Acenaphthalene Dibenzofuran Diethylphthalate Fluorene Hexachlorobenzene Phenanthrene Anthracene Di-n-butylphthalate fluoranthene Butylbenzylphthalate Hexachlorocyclopentadiene	Aluminum Arsenic Barium Cadmium Chromium Manganese Nickel Tin Barium

IV. Remedial Actions

Remedy Selection

A Record of Decision (ROD) was issued on June 30, 1988 and an amended ROD was issued on November 2, 1990. The amended ROD called for the following:

- Expansion of Site boundaries to encompass contaminated areas along the perimeters and the south drainage ditch and construction of an eight foot chain link fence around the expanded boundary.
- Excavation and on-Site incineration of 24,000 cu. yd. of contaminated on-Site soils, 4,000 cu. yd. of contaminated perimeter sediments, and the contents of an estimated 900 to 1,600 buried drums.

- Demolition of on-Site structures for on-Site disposal.
- Collection and treatment of surface water from the two on-Site ponds and drainage ditches and the sediments from the ponds.
- Extraction of groundwater from the WTU and pipe and media drain system along the southern boundary and extending along the southern ends of the east and west boundaries. Extraction of additional groundwater by extraction wells in the Intermediate Unit.
- Relocation of a vacant residence.
- Testing of incinerated waste material for conformance with Ohio EPA and U.S. EPA standards before placement of the material back on-Site as fill before placement of the final cover. If treated soil did not meet standards, it had to be placed in an on-Site RCRA cell.
- Regrading and installation of a soil cover over about 10.6 acres of the Site. The cover will consist of an 18 inch loam layer with six inches of topsoil and a vegetative cover.
- Re-routing the south and east drainage ditches to an uncontaminated area beyond the Site.

The major differences between the 1988 ROD and the 1990 ROD are that the 1988 ROD called for an impermeable cap over the Site with an extensive system of 220 extraction wells along with a slurry wall to provide hydraulic containment and de-watering. The 1990 ROD requires a permeable cover and a passive collection trench, which will allow infiltration and gradual removal of contaminants from the soil and groundwater by the ongoing collection and treatment. The 1990 ROD also includes extraction wells but only in the Intermediate Unit.

Remedy Implementation

A Consent Decree among U.S. EPA, Ohio EPA and the settling defendants was entered and became effective on June 11, 1991. Pursuant to the Consent Decree, the settling defendants formed the Summit National Facility Trust (SNFT) to provide for the performance of the Remedial Design / Remedial Action (RD/RA). Following completion of the Remedial Design, the Remedial Action was implemented in five phases from June 30, 1993 to August 23, 1995. The Final Site Inspection was conducted on August 23, 1995, the Preliminary Close Out Report was issued on September 18, 1995, and the Notice of Completion was submitted on November 2, 1995.

The U.S. EPA and Ohio EPA determined that the following RA activities were completed according to the ROD and design specifications:

- Expansion of Site boundaries to include contaminated areas along the perimeters and the south drainage ditch and construction of a chain link fence around the expanded boundary.
- Excavation and on-Site incineration of 24,000 cu. yards of contaminated Site soils and 4,000 cu. yards of perimeter sediments.
- Demolition or dismantling of all on-Site structures for on-Site disposal.
- Collection and treatment of surface water from two on-Site ponds and from drainage ditches. Sediments were excavated after de-watering and treated on-Site.
- Extraction of groundwater for treatment from the various levels of the water table on-Site by the pipe and media drain system along the southern boundary and portions of the east and west boundaries. Additional extraction wells were installed in the Intermediate Unit to augment the passive collection system. The extraction wells were abandoned on May 9, 1995, due to the low permeability of the unit. Treatment of all extracted water is done in the on-Site treatment system.
- Removed the vacant residence.
- Ash from the incinerated soil and sediment was tested to ensure compliance with U.S. EPA and Ohio EPA standards and was used as fill to re-grade the Site prior to placement of the final cover.
- Re-graded the Site and installed a soil cover over 10.6 acres. The cover consisted of 18 inches of loam and six inches of top soil and a vegetative cover.
- Re-routed the south and east drainage ditches to uncontaminated areas off-Site.
- The contents of 480 overpacked drums were taken off-Site for disposal. This was a change from the planned on-Site treatment which was made due to public concern over incineration of the drum contents.

Access rights and restrictions on future use were included in the Consent Decree. The Consent Decree provided that the U.S EPA , Ohio EPA, the settling defendants and their respective agents have access to the property in order to conduct, all necessary activities to implement the remedy. It also included institutional controls to prohibit any activities that would modify, remove, damage or interfere with the response action. It prohibits any filling, grading, excavating, building, drilling, mining, farming or other development without prior written consent from the agencies. It prohibits extraction, development or use of groundwater or surface water for any purpose. In the

event of any future property sale or deed transfer all of the above restrictions remain effective.

System Operation / Operation and Maintenance

Operation of the groundwater collection and on-Site treatment of contaminated water continues in accordance with the Operation, Maintenance and Monitoring Plan (OMMP), which was approved on November 2, 1995. The implemented remedy along with the OMMP are designed to address three major remedial action objectives (RAOs):

- Protection and enhancement of the quality of the groundwater and recovery of the groundwater resource in the vicinity of the Site.
- Protection of the quality of the surface water in the vicinity of the Site.
- Protection of the public from direct contact with contaminated material on or near the Site, and from migration of surficial contaminants via surface runoff, wind erosion and volatilization.

The primary activities associated with meeting the above objectives include long term operation, maintenance and monitoring of the groundwater collection / extraction system, groundwater treatment system, treated water discharge system, the Site cover and the fence.

Groundwater treatment plant monitoring consists of monthly influent and treated effluent sampling and analysis, and recording of daily flow rates. Results are submitted to the Ohio EPA and to U.S. EPA monthly.

Groundwater quality monitoring was reported at startup and twice per year for the first five years of operation, and annually thereafter. It will continue annually until termination criteria have been met. Groundwater hydraulic monitoring was performed monthly for the first year of operation and quarterly thereafter; this will also continue until the system is terminated.

For the first three rounds of groundwater quality monitoring, the samples were analyzed for the full target compound list (TCL) and target analyte list (TAL). A Site-specific indicator parameter list (SSIPL) was then developed and approved by Ohio EPA and U.S. EPA. All subsequent samples were analyzed for the SSIPL, except that every fifth year the full TCL / TAL analysis is done. Groundwater monitoring reports are submitted to U.S. EPA and Ohio EPA for each monitoring event. Annual evaluation and progress reports are also submitted to Ohio EPA and U.S. EPA.

V. Progress Since the Last Five - Year Review

The first Five-Year Review, completed by the Ohio EPA and approved by the U.S. EPA, was issued on September 23, 1998. No issues were identified which would have required any corrective actions to be taken. The remedy was found to be functioning in accordance with the objectives of the 1990 ROD and was deemed to be protective of human health and the environment.

The remedy continues to function in a way that is protective of human health and the environment, meets applicable or relevant and appropriate requirements (ARARs), as shown in **Attachment 8**, and is in accordance with the objectives of the 1990 ROD.

VI. Five - Year Review Process

Administrative Components

The acting Chairman of the SNFT was notified on July 21, 2003 that Ohio EPA was conducting the Five-Year Review. The SNS Five-Year Review team was led by Sig Williams of Ohio EPA, technical support was provided by Tim Christman of Ohio EPA for ARAR issues and Dr. Sheila Abraham of Ohio EPA for risk assessment issues. Kay Hughes of Ohio EPA assisted with public involvement. Pablo Valentin, the U.S. EPA Remedial Project Manager, assisted with review and approval of the final report.

The review process was initiated in January 2003 and included the following components:

- Community involvement
- Document review
- Data review
- Site inspection
- Five-Year Review Report writing and review

Community Involvement

A public notice was issued in two local newspapers, the Alliance Review, and the Ravenna Record Courier, on July 25, 2003. The notice, included as **Attachment 6**; briefly described the remedy at the Site, outlined the Five-Year Review Process and invited any interested parties to call or write to Ohio EPA with complaints, concerns or questions about the Site. It also included information about how to obtain a copy of the report when it is completed. No responses to the notice have been received to date.

Since this is the second Five-Year Review for SNS and since there has been no public concern expressed, about the Site for several years to Ohio EPA, U.S. EPA or to the Site itself, the review team leader decided that no public meeting would be needed.

Document Review

The second Five-Year Review process began with a review of relevant documents including the Consent Decree, the 1988 ROD, the 1990 amended ROD, the Remedial Investigation (RI) Report, Feasibility (FS) Report, an ESD, the Remedial Action (RA) Report, OMMP Report, the first Five-Year Review Report, and all monthly, quarterly and annual monitoring reports. A comprehensive list of documents reviewed is included as **Attachment 3**.

Data Review

Monitoring of groundwater contaminant concentrations, hydraulic containment and the groundwater treatment system have been going on since November 1994. These data are regularly reported to and reviewed by Ohio EPA and U.S. EPA: For the purpose of this Five-Year Review, all of the data for groundwater and for groundwater treatment were reviewed.

1. Groundwater Monitoring

Table 6 shows the results of all groundwater monitoring wells, since April 1998 for which any of the organic contaminant cleanup goals was exceeded. Monitoring wells MW11, MW 107, MW 108, MW 11, MW 114, MW 118 and MW 223 are the only wells in which exceedances of the long-term performance standards were found. MW 223 is in the UIU, all of the others are in the WTU. All of these monitoring wells are within the capture zone of the pipe and media collection system. There have been no exceedances of the performance standards in the Upper Sharon aquifer, nor have there been any exceedances in any of the off-Site monitoring wells or residential wells. There is no evidence of off-Site migration of contaminants. Concentrations of contaminants generally appear to be slowly decreasing or remaining stable. The rate of movement of contaminants toward the collection system is very slow, much slower than originally anticipated, but the contaminants are effectively contained within the Site boundaries.

Table 6. Summary of groundwater monitoring data for the last five years showing only the monitoring wells in which results exceeded a performance standard for one or more contaminants. All results are in ug./L (ppb).

Sampling dates

Contaminant	MW	CUG	4/98	10/98	4/99	10/99	10/00	10/01	10/02
1,2-DCA	11	0.94	ND	ND	ND	ND	1.4	1.7	1.6
	107		44.9	37.8	108	152	97.4	49.5	66.7
	108		38.1	22	15.1	NS	7.1	5.9	NS
	111		102	92.4	48.6	52.7	61.3	67.2	51.9
	114		ND	ND	ND	ND	ND	ND	ND
	118		3.4	3.5	ND	ND	2.5	3.03	2.6
	223		6.6.	5.7	4.9	3.8	4.5	4.4	4.2
Benzene	11	2.94	NA	NA	NA	ND	0.46	ND	ND
	107		NA	NA	NA	28.8	28.5	41.6	34.8
	108		NA	NA	NA	NA	0.49	ND	NS
	111		NA	NA	NA	ND	ND	ND	ND
	114		NA	NA	NA	ND	ND	ND	ND
	118		NA	NA	NA	ND	ND	ND	ND
	223		NA	NA	NA	ND	ND	ND	ND
Chloroethane	11		NA	NA	NA	ND	ND	ND	ND
	107		NA	NA	NA	ND	ND	ND	ND
	108		NA	NA	NA	ND	ND	ND	NS
	111		NA	NA	NA	ND	ND	ND	ND
	114		NA	NA	NA	ND	ND	ND	ND
	118		NA	NA	NA	ND	ND	ND	ND
	223		NA	NA	NA	ND	ND	ND	ND
PCE	11		NA	NA	NA	ND	ND	ND	ND

	107		NA	NA	NA	ND	ND	ND	ND
	108		NA	NA	NA	NA	ND	ND	NS
	111		NA	NA	NA	ND	ND	ND	ND
	114		NA	NA	NA	ND	ND	ND	ND
	118		NA	NA	NA	ND	ND	ND	ND
	223		NA	NA	NA	ND	ND	ND	ND
TCE	11	7.74	22.5	26.4	72.9	22.1	28.5	26.6	33.6
	107		ND	2.1	ND	ND	ND	ND	ND
	108		6.9	3.5	1.9	NS	2.1	1.5	NS
	111		ND	ND	ND	ND	ND	ND	ND
	114		ND	ND	ND	ND	ND	ND	ND
	118		ND	ND	ND	ND	ND	ND	ND
	223		ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	11	0.04	NA	NA	NA	2.8	1.8	ND	2.0
	107		NA	NA	NA	24.4	20.1	ND	ND
	108		NA	NA	NA	ND	ND	ND	NS
	111		NA	NA	NA	ND	ND	1.2	1.1
	114		NA	NA	NA	ND	ND	ND	ND
	118		NA	NA	NA	ND	ND	ND	ND
	223		NA	NA	NA	ND	ND	ND	ND

MW means monitoring well

CUG means cleanup goal or performance standard (in ppb)

ND means not detected

NS means no sample was obtained

NA means the chemical was not assessed on that sampling date

2. Groundwater Treatment

The groundwater treatment system has been in operation since November 1994, and has been compliant with the discharge limits established by the Ohio EPA. There have

been no significant exceedances for any organic or inorganic parameter. **Table 7** shows the data from a recent monthly report. This report is representative of a typical monthly report. All effluent limits are met. Influent concentrations for organic contaminants are low, often the influent concentrations meet the discharge limit before treatment. The primary constituent being removed in the treatment process is iron.

Table 7. Groundwater treatment plant influent/effluent data for March 2003 (all units are ug/L) .

Chemical	Discharge limit	Influent concentration	Effluent discharge concentration
Acetone	927	ND(5)	ND(5)
Benzene	7	ND(1)	ND(1)
1,1-dichloroethane	7	2.7	2.9
1,2-dichloroethane	21	3.3	1.4
1,1-dichloroethene	5	ND(2)	ND(2)
1,2-dichloroethene	26	11.7	7.1
Ethylbenzene	5	ND(1)	ND(1)
Methylene chloride	5	ND(2)	ND(2)
2-butanone	442	ND(5)	ND(5)
Methyl isobutyl ketone	15	ND(5)	ND(5)
Toluene	5	ND(1)	ND(1)
1,1,1-trichloroethane	12	ND(5)	ND(5)
Trichloroethene	5	4.4	ND(1)
Xylene (total)	6	ND(3)	ND(3)
Bis-2-ethylhexylphthalate	10	ND(5)	ND(5)
Isophorone	10	ND(5)	ND(5)
2-methyl naphthalene	10	ND(5)	ND(5)

Naphthalene	10	ND(5)	ND(5)
4-chloro-3-methyl phenol	10	ND(5)	ND(5)
2,4-dimethyl phenol	10	ND(5)	ND(5)
2-(o-oresol)methyl phenol	10	ND(5)	ND(5)
Phenol	10	ND(5)	ND(5)
Antimony	30	ND(5):	ND(5)
Arsenic	190	ND(5)	ND(5)
Iron	1000	15,500	266
Aluminum		ND(200)	ND(200)
Barium	500	ND(200)	ND(200)
Calcium		272,000	301,000
Chromium	20	ND(10)	ND(10)
Cobalt		ND(10)	ND(10)
Copper	90	ND(2)	ND(2)
Lead	50	ND(1)	1.1
Magnesium		62,400	68,500
Manganese		1,700	300
Nickel	200	NE (40)	ND(40)
Potassium.		5,490	5,730
Zinc	200	35.9	ND(20)

ND means not detected, detection limits are shown in parentheses

3. Hydraulic Containment

Review of quarterly hydraulic monitoring reports, since the startup of the groundwater collection system, has shown that hydraulic containment has been consistently maintained. There is no evidence of off-Site migration of contaminants or plume expansion. The collection system appears to maintain an upward gradient from the

intermediate unit to the water table unit. There is no evidence of downward migration of contaminants from the WTU to the UIU, the LIU or to the Upper Sharon aquifer.

Site Inspection

The Ohio EPA has assumed the primary oversight role since 1996. The Ohio EPA Site Coordinator periodically conducts Site visits and regularly reviews all monthly, quarterly and annual monitoring reports. The most recent Site inspection was conducted on August 4, 2003, specifically for the purpose of the second Five-Year Review. The Site inspection began with an interview of the Site Manager. The results of the interview are included here and also as **Attachment 4**, the Site inspection checklist. The inspection covered the entire Site, including the groundwater treatment plant, offices and computer facilities, a walk along the entire Site perimeter and fence, the on-Site and off-Site monitoring well system, the pipe and media drain and wet well, the east and south drainage ditches, and the treatment plant effluent discharge point. Photographs were taken of all significant Site features, these are included as **Attachment 5**.

No significant issues have been identified at any time regarding the groundwater treatment system, the hydraulic containment system, the Site cover or the building.

There have been no incidences of trespassing, vandalism or other external problems. No complaints from nearby residents have been received by the Site Manager, the Ohio EPA Site Coordinator or the U.S. EPA Remedial Project Manager.

A relatively minor issue was noted during the Site inspection. The on-Site parking area inside the entrance in front of the building and also the access road to the groundwater collection trench are becoming overgrown with weeds. The Site Manager for SNFT indicated that the situation at the Site entrance and parking area is going to be corrected in the near future. This is primarily a public relations issue concerning the appearance of the Site. The access road from the treatment plant building around to the back of the Site is used for periodic maintenance of the pipe and media drain and the wet well. This road is overgrown to the point that it is difficult to discern the road from the rest of the vegetative cover.

Another issue noted during the Site inspection concerned the condition of the monitoring wells. Although all monitoring wells were locked and in good functional condition, many were in need of re-painting and re-labeling. The paint had peeled off and labels were not visible on several monitoring wells. This could potentially lead to mis-identification of monitoring wells during periodic sampling.

These issues and recommendations for follow-up actions are summarized in **Table 8** and **Table 9**.

VII. Technical Assessment

Question A: Is the remedy functioning as intended by the decision documents?

Yes, based on a review of relevant documents, applicable or relevant and appropriate requirements (ARARs), risk assumptions, and the results of the Site inspection, the remedy appears to be functioning as intended by the 1990 ROD and ESD, and is expected to continue to do so. The contamination left on-Site is in soil and in groundwater. No surface water remains on Site no contaminated sediments remain on-Site. The remaining contaminants in soil and groundwater are effectively contained by the remedy and are gradually being reduced. Contaminated soils are covered with 2.5 feet of clean soil and also by a vegetative cover, the Site is entirely fenced and institutional controls are in place to prevent future contact with soil contaminants. Contaminated groundwater is effectively contained within the Site boundaries by the pipe and media drain groundwater collection system and also by the low permeability of the hydrogeologic units. The groundwater treatment plant consistently meets the discharge limits established by the Ohio EPA.

Question B: Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives (RAOs) used at the time of the remedy selection still valid?

The toxicity values that are the basis for the groundwater performance standards have changed over the years, some have increased and some have decreased. A Table comparing the current performance standards with projected single chemical standards which might result were new standards to be calculated based on current carcinogenic and noncarcinogenic risk factors is shown as **Attachment 7**. The performance standards for benzene, 1,2-DCA, PCE, TCE and vinyl chloride would become more stringent, while the standard for chloroethane would actually become less stringent. At this time, however, there does not appear to be any compelling reason to re-evaluate the performance standards, especially while the new value for TCE is not yet final.

At this time, the groundwater contamination concentrations within the Site boundaries are still well above the original performance standards, and it appears that it will be many years before the concentrations will fall below those standards. At some time before any final decisions are made regarding achievement of final performance standards or cleanup goals, and the resultant shut down of the treatment system, it may be advisable to re-evaluate the performance standards. In the interim, there are no complete pathways to any receptors. The only discharge from the Site is the effluent from the groundwater treatment system, which has consistently met the effluent limits established by the Ohio EPA.

Question C: Has any other information come to light that could call into question the protectiveness of the remedy?

No, there is no new information that has come to light that could affect the protectiveness of the remedy. The issues identified in the Site inspection (**Table 8**) do not affect the protectiveness of the remedy.

Technical Assessment Summary

After review of all available data and the results of the Site inspection, the remedy appears to be functioning as intended by the ROD, as modified by the ESD. There have been no changes in the physical conditions of the Site that would affect the protectiveness of the remedy. There have been no changes to the standardized risk assessment methodology that would affect the protectiveness of the remedy, at this time, although it may be necessary to revisit the risk based performance standards in the future, when groundwater concentrations begin to approach the final performance standards. There is no other information that calls into question the protectiveness of the remedy.

There have been some changes in toxicity factors and cancer slope factors since the risk assessment was done and the cleanup standards were developed for groundwater, however, the contaminated groundwater is contained within the Site boundaries. There is no evidence of off-Site groundwater contamination. Movement of the plume is minimal, even within the Site boundaries. The contaminants are essentially not moving. The organic contaminants are not even reaching the collection trench and are not appearing in the influent to the groundwater treatment plant. Many times the influent concentrations meet the discharge limits for all organic contaminants and, with the exception of iron, also meet the discharge limits for inorganic contaminants.

VIII. Issues

Table 8: Issues

Issue	Affects Current Protectiveness (Y/N)	Affects Future Protectiveness (Y/N)
Parking lot and access road are overgrown with weeds	N	N
Paint on some monitoring well risers is peeling and rusting, some labels are obscured	N	N

IX. Recommendations and Follow-up Actions

Table 9: Recommendations and Follow-Up Actions

Issue	Recommendation / Follow-Up Action	Party Responsible	Oversight Agency	Milestone Date	Affects Protective-ness (Y/N)
Parking lot and access road are overgrown with weeds	Remove weeds, resurface gravel road	SNFT	Ohio EPA	9/23/04	N
Paint on some monitoring well risers is peeling and rusted, some labels are obscured	Remove rust, re-paint and re-label monitoring well risers	SNFT	Ohio EPA	9/23/04	N

X. Protectiveness Statement

The remedy is expected to be protective of human health and the environment upon attainment of the groundwater cleanup goals, which is expected to require 20 years to achieve. In the interim, exposure pathways are being controlled and institutional controls are preventing exposure to, or the ingestion of, contaminated groundwater. Exposure to contaminated soil at the Site has been addressed by incinerating the most heavily contaminated soils, applying a cover of clean soil, a vegetative cover, fencing and institutional controls. Long term protectiveness of the remedy will be verified by continuing the annual groundwater monitoring, quarterly hydraulic monitoring and monthly reporting of influent and effluent quality of the on-Site groundwater treatment plant.

XI. Next Review

The next Five-Year Review for the Summit National Superfund Site is required in September, 2008, five years from the date of this review.

ATTACHMENT 1

SITE LOCATION MAP

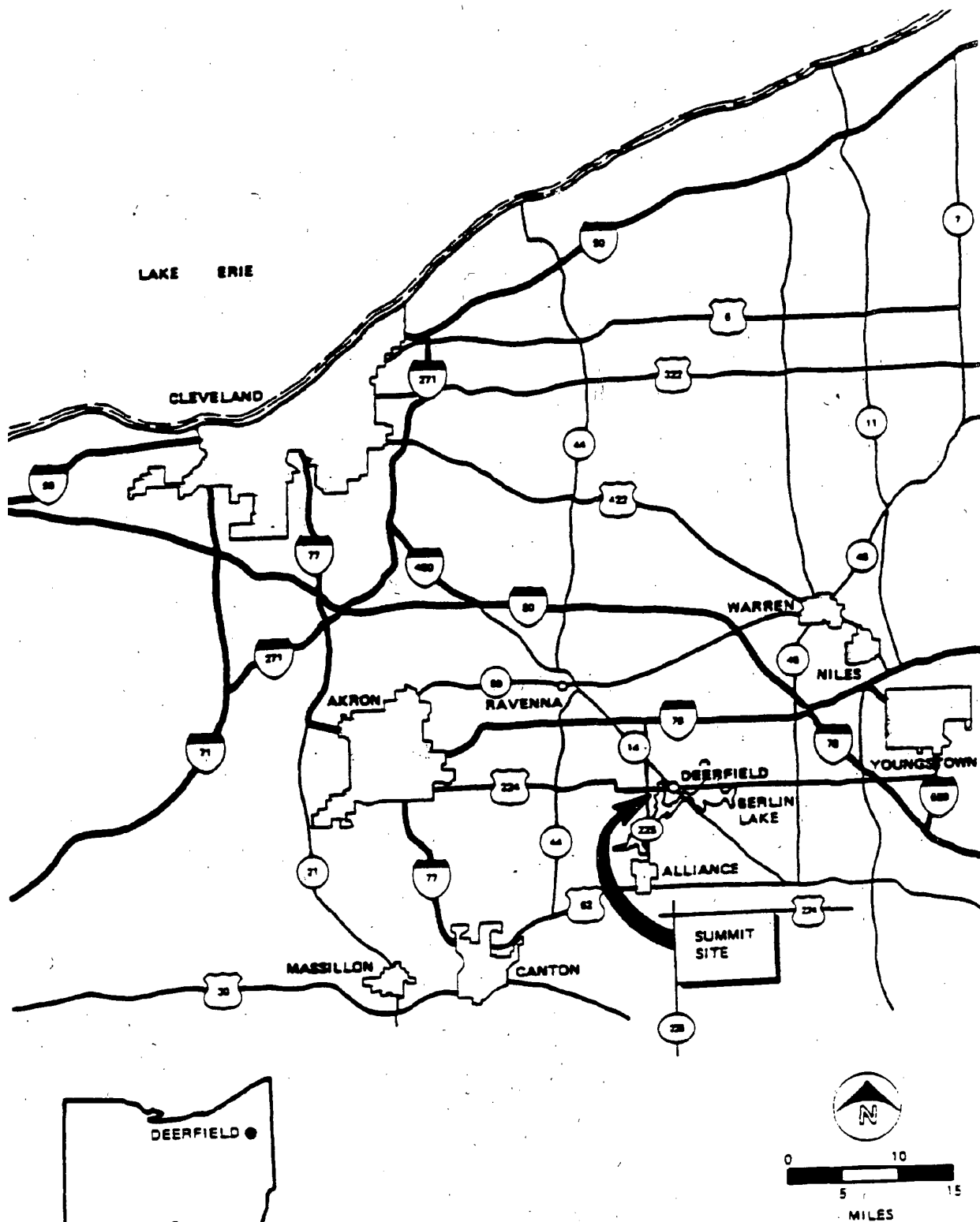
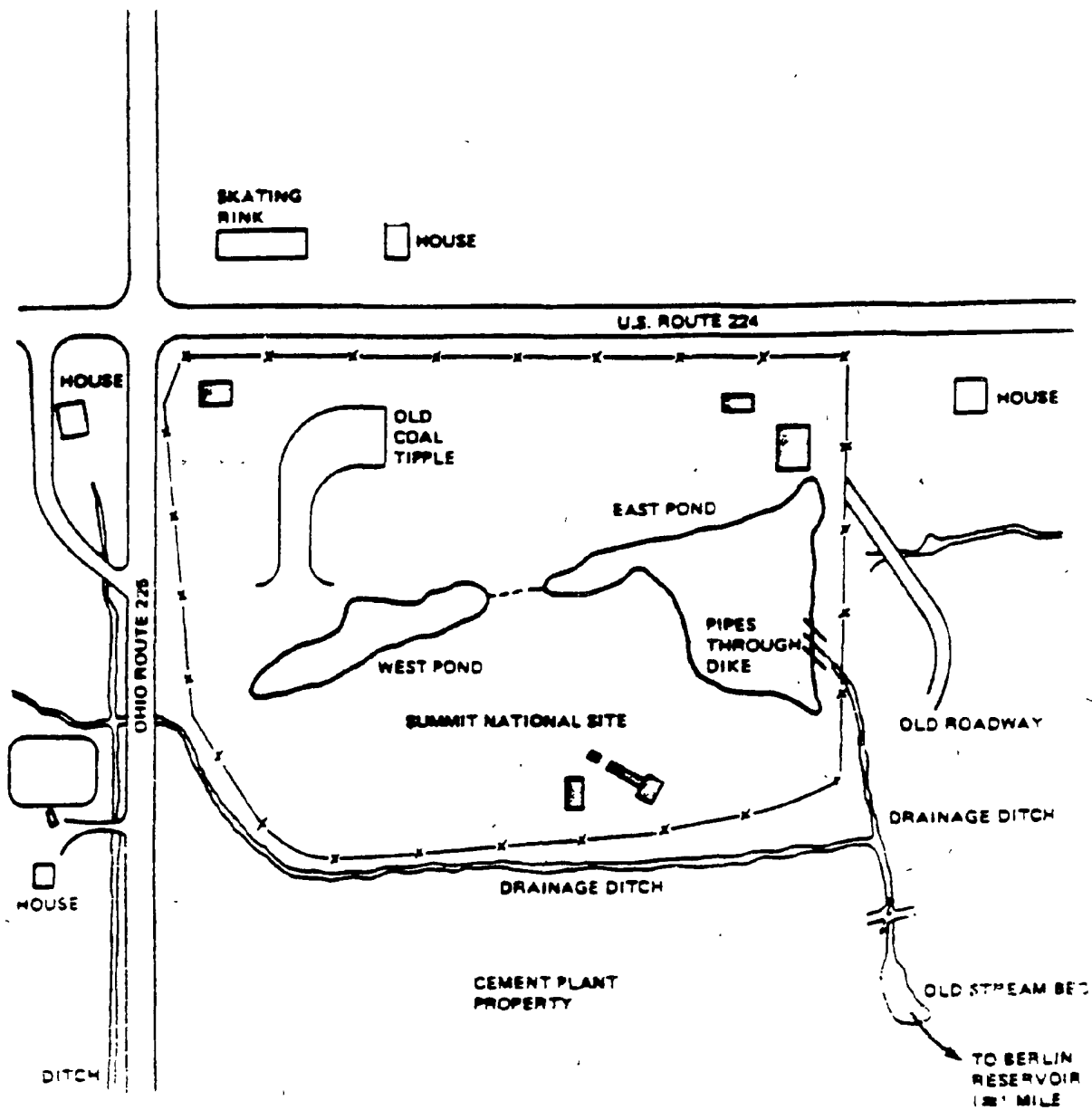


FIGURE 1-1
SUMMIT SITE LOCATION
SUMMIT NATIONAL RI

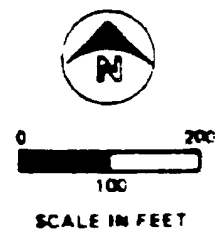
ATTACHMENT 2

DRAWING OF SITE FEATURES



LEGEND

 ABANDONED STRUCTURES



NOTE ALL LOCATIONS OF STRUCTURES
AND PHYSICAL FEATURES APPROXIMATE

SOURCE MODIFIED FROM USEPA

FIGURE E-1
SITE MAP
SUMMIT NATIONAL PL

ATTACHMENT 3

Documents Reviewed

CH2M Hill. 1988. Feasibility Study Report - Summit National Superfund Site. February 10, 1988.

CH2M Hill. 1988. Remedial Investigation Report - Summit National Superfund Site. January 11, 1988.

Conestoga-Rovers & Associates. 1994 through 2002. Annual Progress Reports - Summit National Superfund Site.

Conestoga-Rovers & Associates. 1993. Final Design Report - Summit National Superfund Site. May 27, 1993.

Conestoga-Rovers & Associates. 1994 through 2002. Groundwater Monitoring Reports - Summit National Superfund Site.

Conestoga-Rovers & Associates. 1994 through 2003. Hydraulic Monitoring Reports - Summit National Superfund Site.

Conestoga-Rovers & Associates. 1999. Interim Evaluation of Remedial Action - Summit National Superfund Site.
March 4, 1999.

Conestoga-Rovers & Associates. 1995. Operation, Maintenance and Monitoring Plan - Summit National Superfund Site.
November 3, 1995.

Conestoga-Rovers & Associates. 1995. Remedial Action Report - Summit National Superfund Site. October 31, 1995.

Ohio EPA. 1998. Five Year Review Report - Summit National Superfund Site. October 21, 1998.

Ohio EPA. 1994. Substantive Permit to Discharge - Summit National Superfund Site. May 18, 1994.

Summit National Facility Trust. 1994 through 2003. Monthly Effluent Reports for the Groundwater Treatment Plant - Summit National Superfund Site.

United States Environmental Protection Agency (USEPA). 2001. Comprehensive Five-Year Review Guidance, June 2001.
Office of Solid Waste and Emergency Response (OSWER) Directive 9355.7-03B-P.

United States Environmental Agency. 1988. EPA Superfund Record of Decision: Summit National. June 30, 1988.

United States Environmental Protection Agency: 1990. EPA Superfund Record of Decision: Summit National. November 2, 1990.

United States Environmental Protection Agency. 1992. Explanation of Significant Difference - Summit National Superfund Site. March 23, 1992.

Consent Decree - Summit National Superfund Site. June 11, 1991.

ATTACHMENT 4

SITE INSPECTION CHECKLIST

(Working document for site inspection. Information may be completed by hand and attached to the Five-Year Review report as supporting documentation of site status. "N/A" refers to "not applicable.")

D-7

III. ON-SITE DOCUMENTS & RECORDS VERIFIED (Check all that apply)				
1.	O&M Documents <input checked="" type="checkbox"/> O&M manual <input checked="" type="checkbox"/> As-built drawings <input checked="" type="checkbox"/> Maintenance logs Remarks _____	<input checked="" type="checkbox"/> Readily available <input checked="" type="checkbox"/> Readily available <input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input checked="" type="checkbox"/> Up to date <input checked="" type="checkbox"/> Up to date	N/A N/A N/A
2.	Site-Specific Health and Safety Plan Contingency plan/emergency response plan Remarks _____	<input checked="" type="checkbox"/> Readily available <input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input checked="" type="checkbox"/> Up to date	N/A N/A
3.	O&M and OSHA Training Records Remarks _____	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date	N/A
4.	Permits and Service Agreements Air discharge permit Effluent discharge Waste disposal, POTW - <i>Sludge</i> Other permits _____ Remarks _____	Readily available <input checked="" type="checkbox"/> Readily available <input checked="" type="checkbox"/> Readily available Readily available	Up to date <input checked="" type="checkbox"/> Up to date <input checked="" type="checkbox"/> Up to date Up to date	N/A N/A N/A N/A
5.	Gas Generation Records Remarks _____	Readily available	Up to date	N/A
6.	Settlement Monument Records Remarks _____	Readily available	Up to date	<input checked="" type="checkbox"/> N/A
7.	Groundwater Monitoring Records Remarks <i>Reported annually</i>	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date	N/A
8.	Leachate Extraction Records Remarks _____	Readily available	Up to date	N/A
9.	Discharge Compliance Records Air Water (effluent) Remarks <i>Reported monthly</i>	Readily available <input checked="" type="checkbox"/> Readily available	Up to date <input checked="" type="checkbox"/> Up to date	N/A N/A
10.	Daily Access/Security Logs Remarks _____	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date	N/A

C. Institutional Controls (ICs)				
1.	Implementation and enforcement			
	Site conditions imply ICs not properly implemented	Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/>	N/A	
	Site conditions imply ICs not being fully enforced	Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/>	N/A	
	Type of monitoring (e.g., self-reporting, drive by) <u>Full time Site Manager</u>			
	Frequency _____			
	Responsible party/agency <u>SNFT/Site Manager</u>			
	Contact <u>Mark Witherspoon</u>	<u>Site Manager</u>	Date _____	Phone no. _____
	Name	Title	Date	Phone no.
	Reporting is up-to-date	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	N/A	
	Reports are verified by the lead agency	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	N/A	
	Specific requirements in deed or decision documents have been met	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	N/A	
	Violations have been reported	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	N/A	
	Other problems or suggestions: Report attached			

2.	Adequacy	<input checked="" type="checkbox"/> ICs are adequate	<input type="checkbox"/> ICs are inadequate	N/A
	Remarks _____			

D. General				
1.	Vandalism/trespassing	Location shown on site map	<input checked="" type="checkbox"/> No vandalism evident	
	Remarks <u>No vandalism incidents</u>			

2.	Land use changes on site	N/A		
	Remarks <u>No land use changes on-site since remedy construction</u>			

3.	Land use changes off site	N/A		
	Remarks <u>no land use changes in the vicinity of the site</u>			

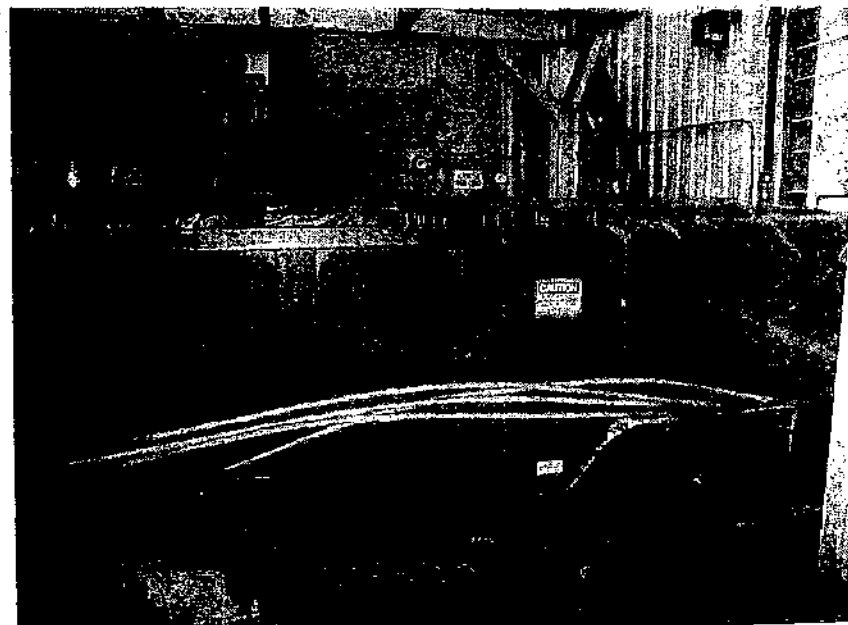
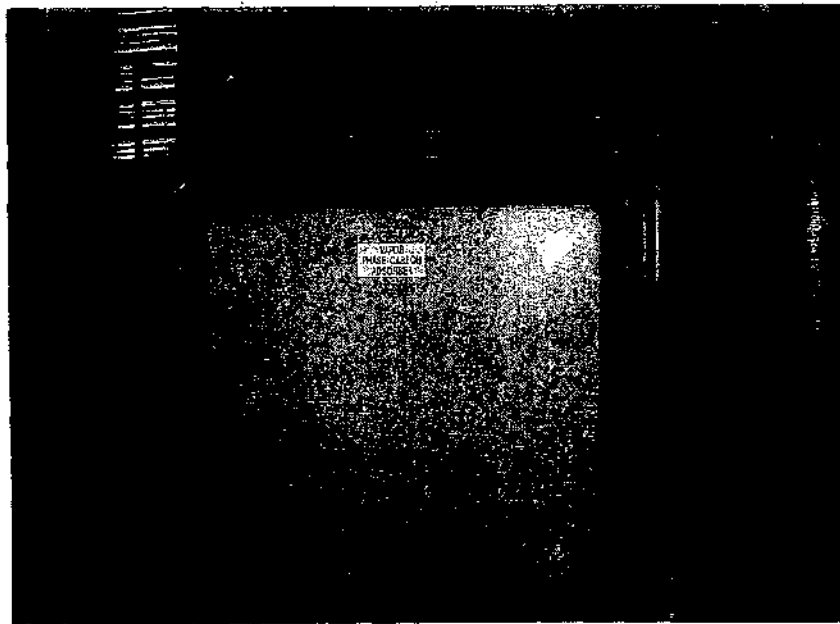
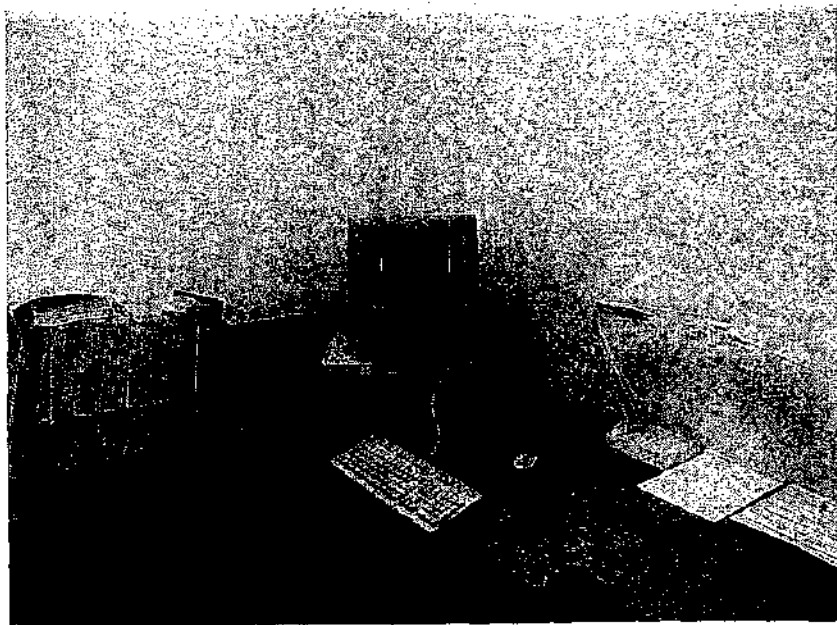
VI. GENERAL SITE CONDITIONS				
A.	Roads	<input checked="" type="checkbox"/> Applicable	N/A	
1.	Roads damaged	Location shown on site map	Roads adequate	N/A
	Remarks <u>Road is overgrown with weeds but is fully functional</u>			

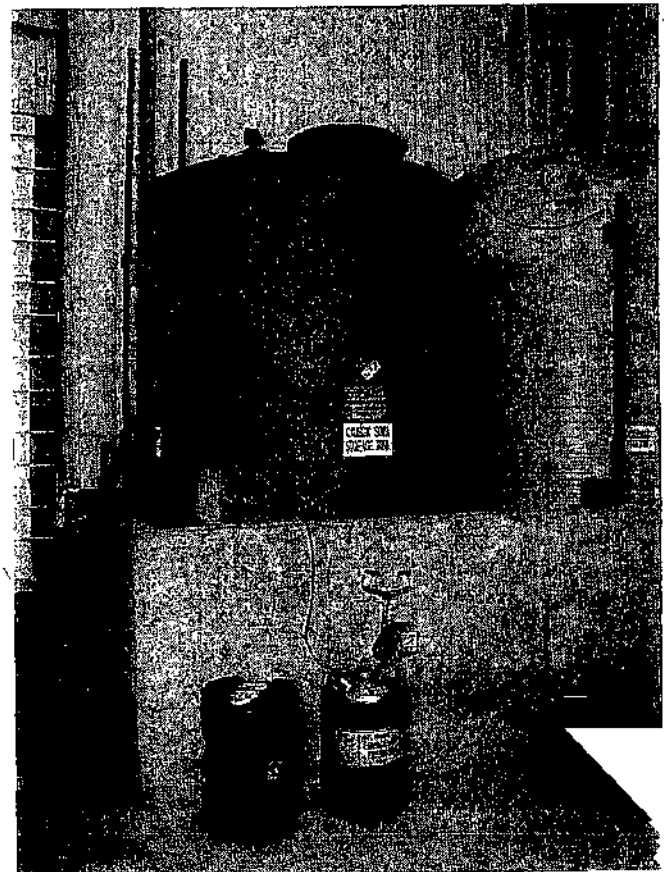
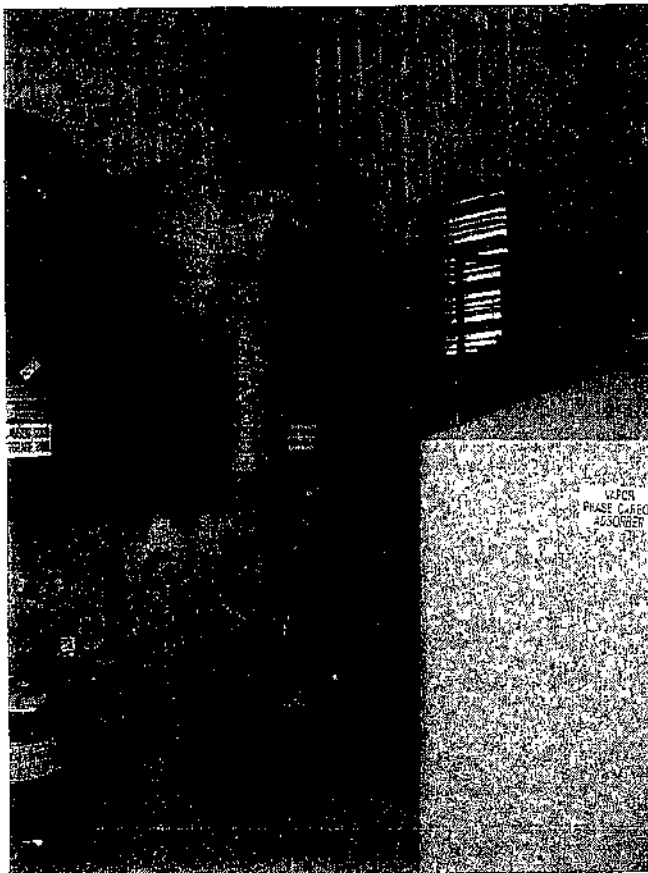
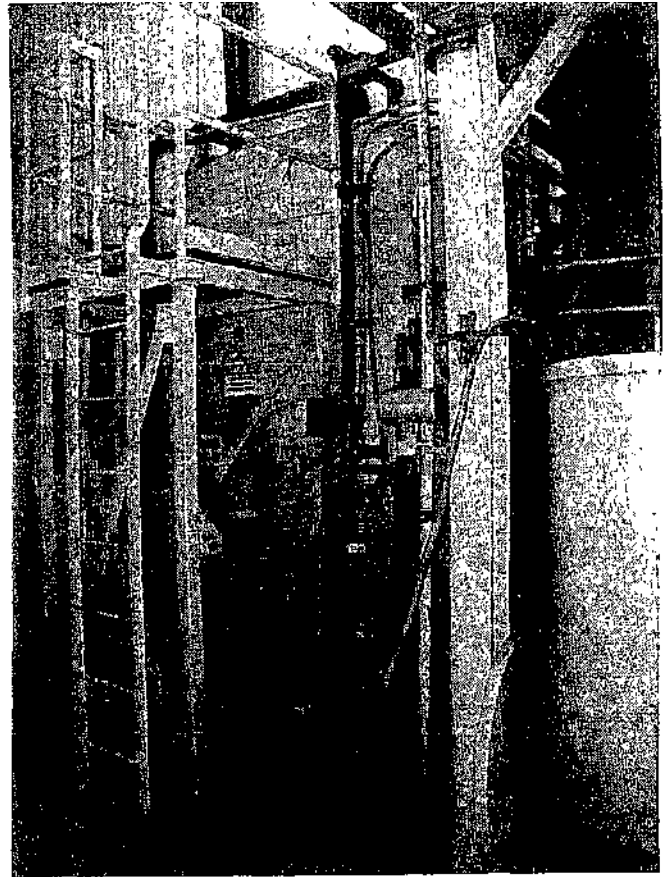
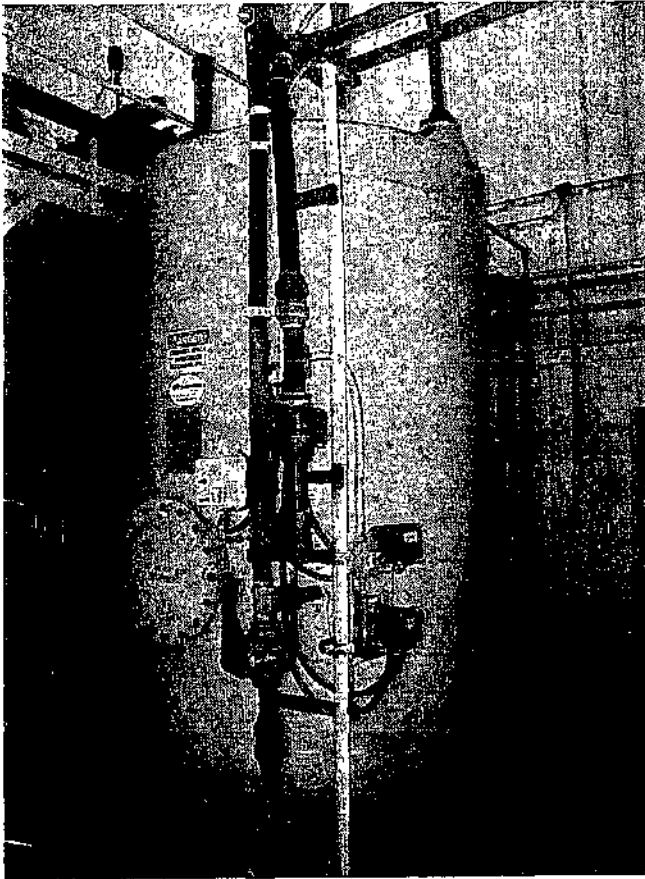
8.	Wet Areas/Water Damage	<input checked="" type="checkbox"/> Wet areas/water damage not evident
	Wet areas	Location shown on site map Areal extent _____
	Ponding	Location shown on site map Areal extent _____
	Seeps	Location shown on site map Areal extent _____
	Soft subgrade	Location shown on site map Areal extent _____
	Remarks _____	
9.	Slope Instability	Slides Location shown on site map <input checked="" type="checkbox"/> No evidence of slope instability
	Areal extent _____	
	Remarks _____	
B. Benches Applicable <input checked="" type="checkbox"/> N/A (Horizontally constructed mounds of earth placed across a steep landfill side slope to interrupt the slope in order to slow down the velocity of surface runoff and intercept and convey the runoff to a lined channel.)		
1.	Flows Bypass Bench	Location shown on site map N/A or okay
	Remarks _____	
2.	Bench Breached	Location shown on site map N/A or okay
	Remarks _____	
3.	Bench Overtopped	Location shown on site map N/A or okay
	Remarks _____	
C. Letdown Channels Applicable <input checked="" type="checkbox"/> N/A (Channel lined with erosion control mats, riprap, grout bags, or gabions that descend down the steep side slope of the cover and will allow the runoff water collected by the benches to move off of the landfill cover without creating erosion gullies.)		
1.	Settlement	Location shown on site map No evidence of settlement
	Areal extent _____ Depth _____	
	Remarks _____	
2.	Material Degradation	Location shown on site map No evidence of degradation
	Material type _____ Areal extent _____	
	Remarks _____	
3.	Erosion	Location shown on site map No evidence of erosion
	Areal extent _____ Depth _____	
	Remarks _____	

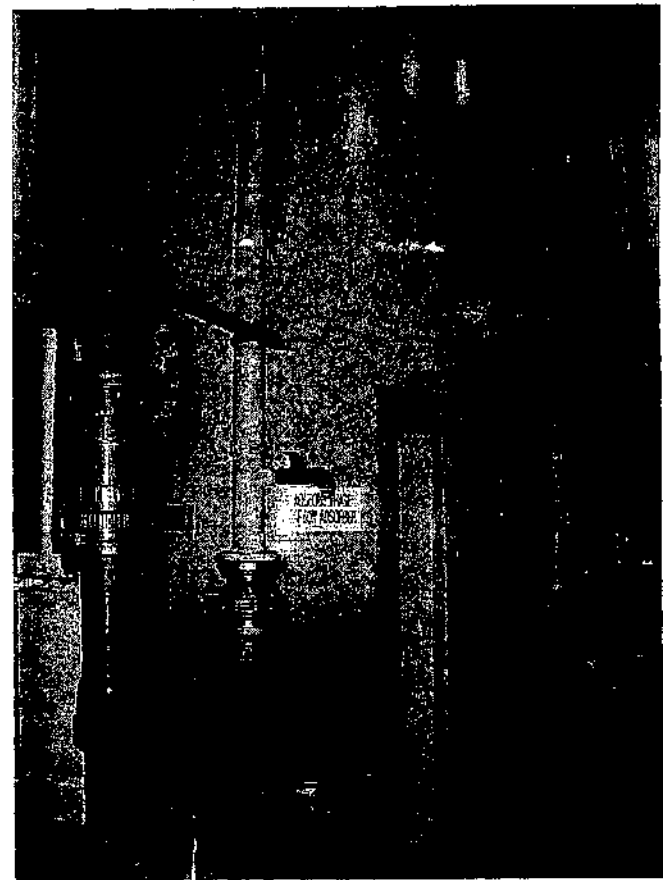
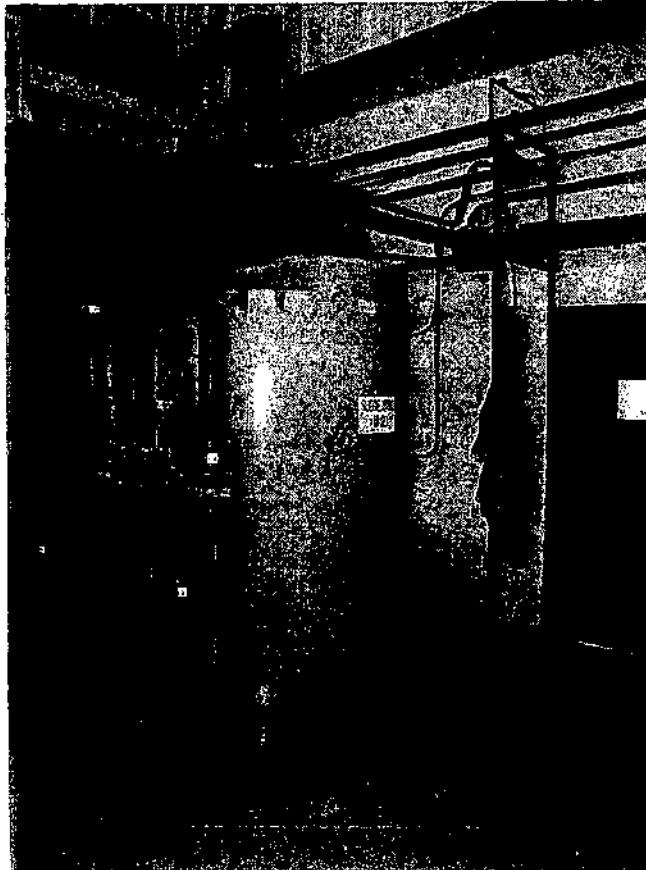
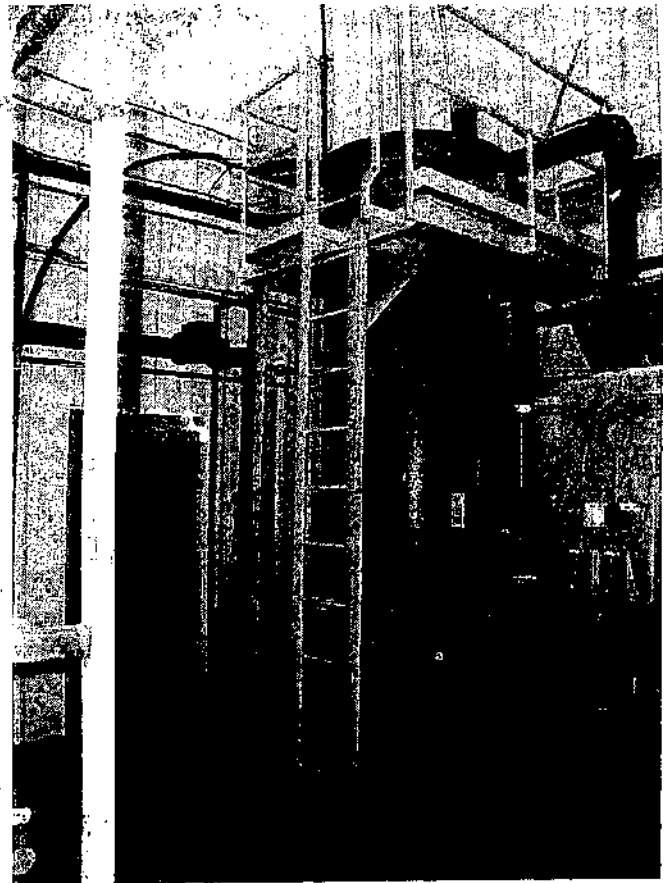
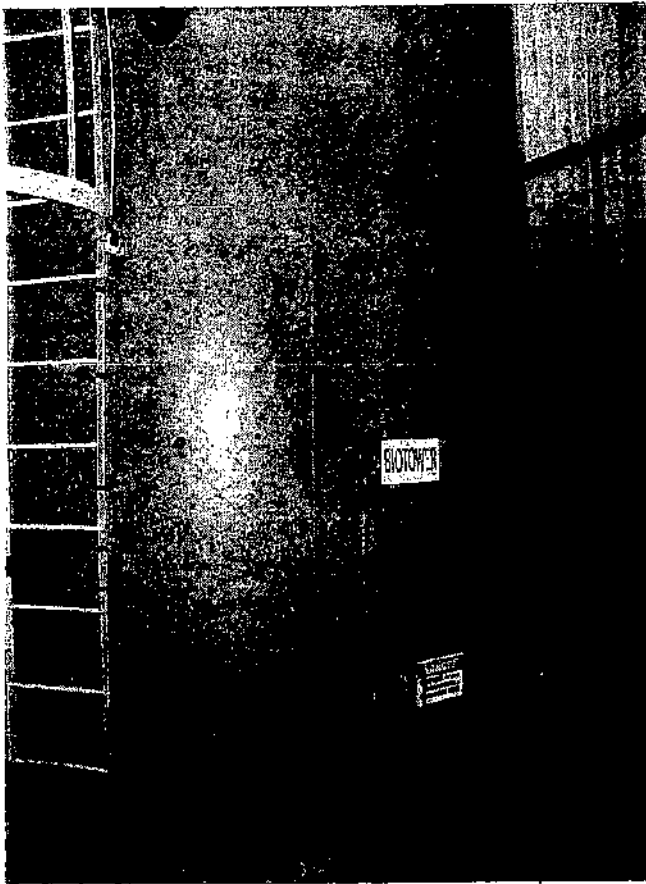
E. Gas Collection and Treatment		Applicable	<input checked="" type="checkbox"/> N/A
1.	Gas Treatment Facilities Flaring Good condition Remarks _____	Thermal destruction Needs Maintenance	Collection for reuse
2.	Gas Collection Wells, Manifolds and Piping Good condition Remarks _____	Needs Maintenance	
3.	Gas Monitoring Facilities (e.g., gas monitoring of adjacent homes or buildings) Good condition Remarks _____	Needs Maintenance	N/A
F. Cover Drainage Layer		Applicable	<input checked="" type="checkbox"/> N/A
1.	Outlet Pipes Inspected Remarks _____	Functioning	N/A
2.	Outlet Rock Inspected Remarks _____	Functioning	N/A
G. Detention/Sedimentation Ponds		Applicable	<input checked="" type="checkbox"/> N/A
1.	Siltation Areal extent _____ Depth _____ Siltation not evident Remarks _____		N/A
2.	Erosion Areal extent _____ Depth _____ Erosion not evident Remarks _____		
3.	Outlet Works Remarks _____	Functioning	N/A
4.	Dam Remarks _____	Functioning	N/A

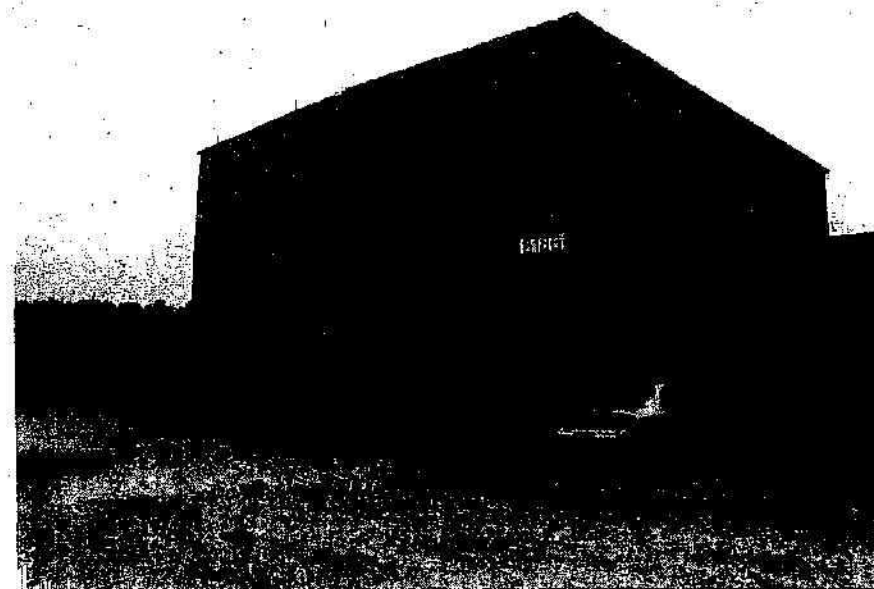
IX. GROUNDWATER/SURFACE WATER REMEDIES		<input checked="" type="checkbox"/> Applicable	<input checked="" type="checkbox"/> N/A
A. Groundwater Extraction Wells, Pumps, and Pipelines		<input checked="" type="checkbox"/> Applicable	<input checked="" type="checkbox"/> N/A
1.	Pumps, Wellhead Plumbing, and Electrical <input checked="" type="checkbox"/> Good condition <input checked="" type="checkbox"/> All required wells properly operating Needs Maintenance N/A Remarks _____		
2.	Extraction System Pipelines, Valves, Valve Boxes, and Other Appurtenances <input checked="" type="checkbox"/> Good condition Needs Maintenance Remarks _____		
3.	Spare Parts and Equipment <input checked="" type="checkbox"/> Readily available <input checked="" type="checkbox"/> Good condition Requires upgrade Needs to be provided Remarks _____		
B. Surface Water Collection Structures, Pumps, and Pipelines		Applicable	<input checked="" type="checkbox"/> N/A
1.	Collection Structures, Pumps, and Electrical Good condition Needs Maintenance Remarks _____		
2.	Surface Water Collection System Pipelines, Valves, Valve Boxes, and Other Appurtenances Good condition Needs Maintenance Remarks _____		
3.	Spare Parts and Equipment Readily available Good condition Requires upgrade Needs to be provided Remarks _____		

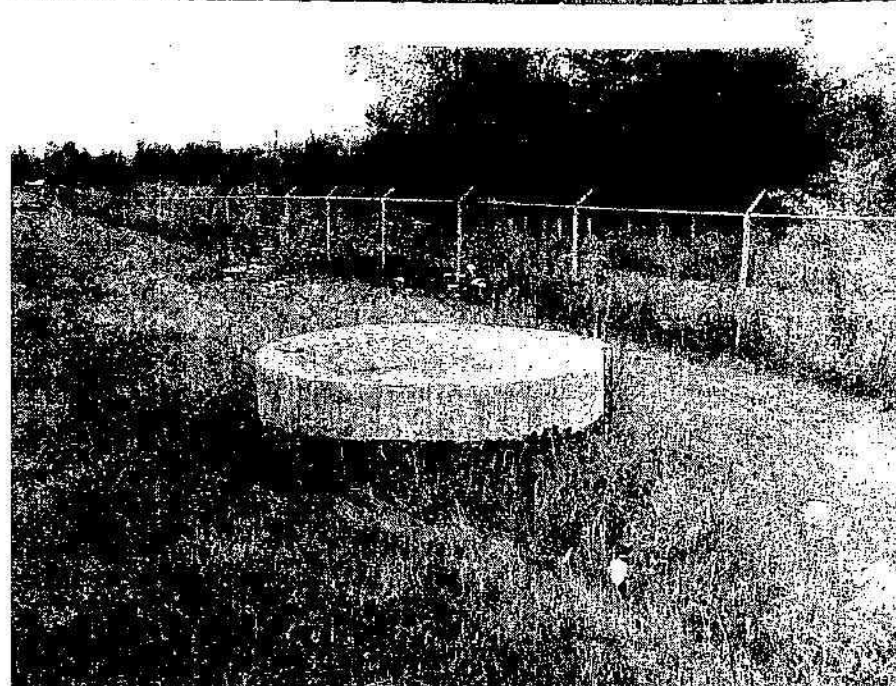
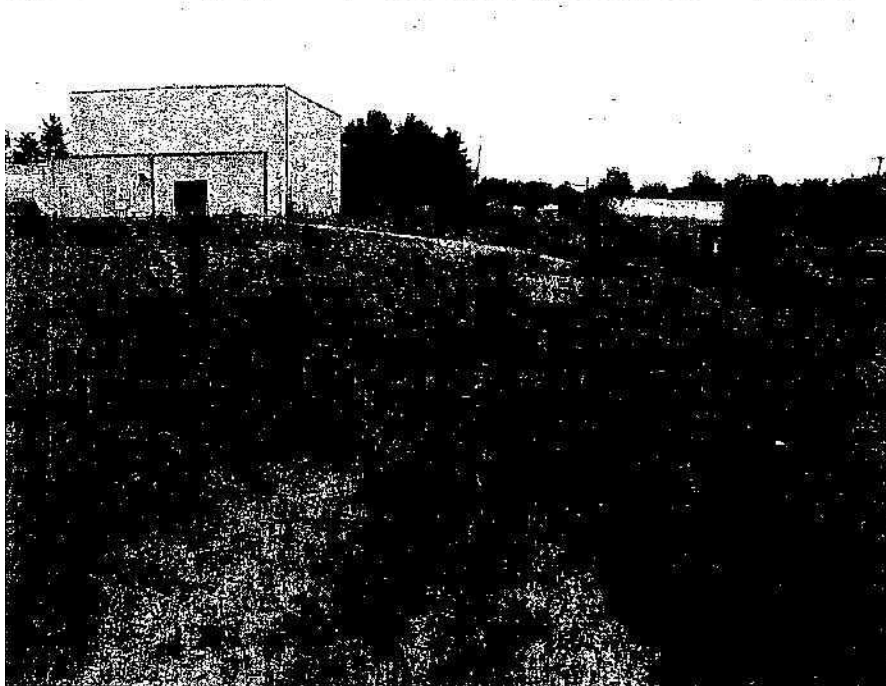
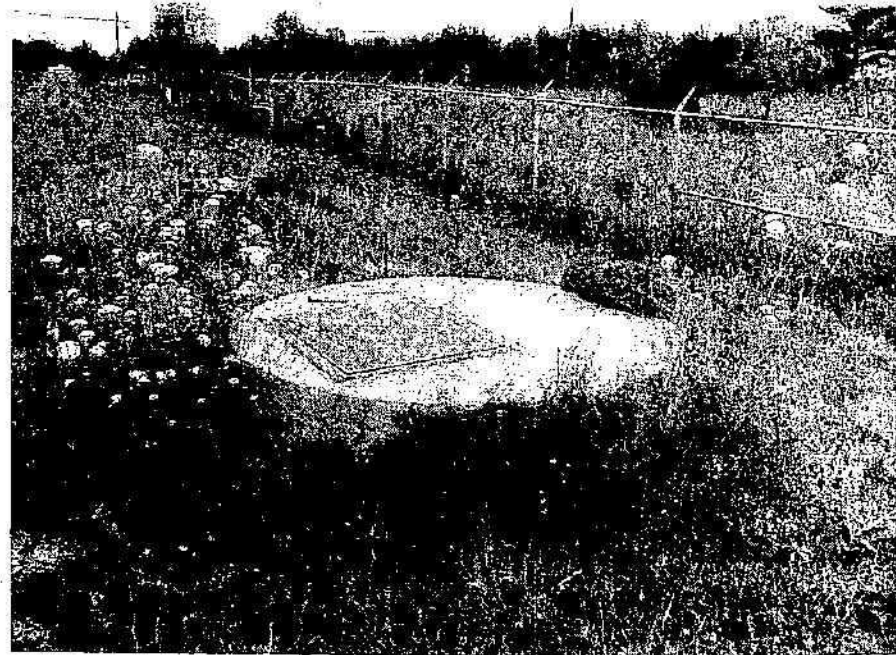
D. Monitored Natural Attenuation			
1.	Monitoring Wells (natural attenuation remedy)		
	Properly secured/locked	Functioning	Routinely sampled
	All required wells located	Needs Maintenance	Good condition
	Remarks		<input checked="" type="checkbox"/> N/A
X. OTHER REMEDIES			
If there are remedies applied at the site which are not covered above, attach an inspection sheet describing the physical nature and condition of any facility associated with the remedy. An example would be soil vapor extraction.			
XI. OVERALL OBSERVATIONS			
A. Implementation of the Remedy			
<p>Describe issues and observations relating to whether the remedy is effective and functioning as designed. Begin with a brief statement of what the remedy is to accomplish (i.e., to contain contaminant plume, minimize infiltration and gas emission, etc.).</p> <p><i>Remedial objectives are to prevent exposure to contaminants in soil and groundwater, to contain groundwater contamination and to gradually reduce contaminant in subsurface soil and groundwater by continuous pump and treat and by allowing infiltration of rainwater through permeable cover.</i></p> <p><i>Remedy is functioning as designed and is protective of human health and the environment.</i></p>			
B. Adequacy of O&M			
<p>Describe issues and observations related to the implementation and scope of O&M procedures. In particular, discuss their relationship to the current and long-term protectiveness of the remedy.</p> <p><i>Implementation of the O&M Plan has kept the remedy functioning as designed. Monthly, quarterly and annual monitoring and reporting provides documentation that remedial objectives continue to be met.</i></p>			

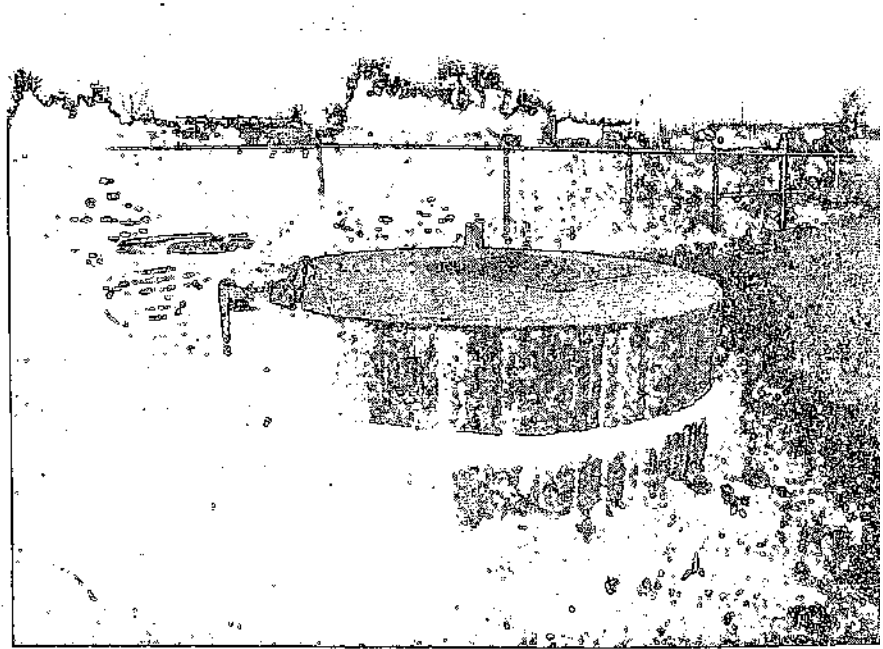
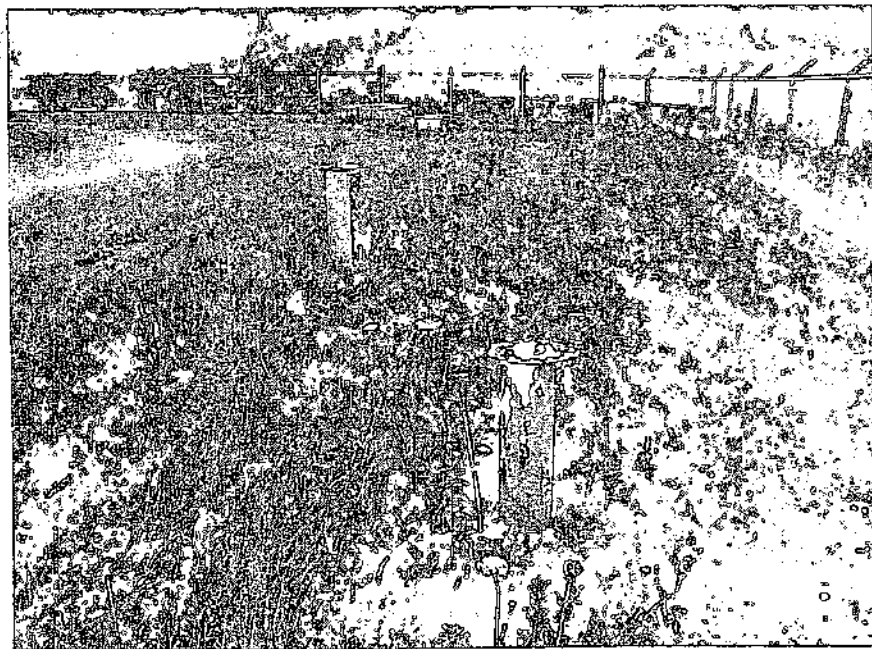
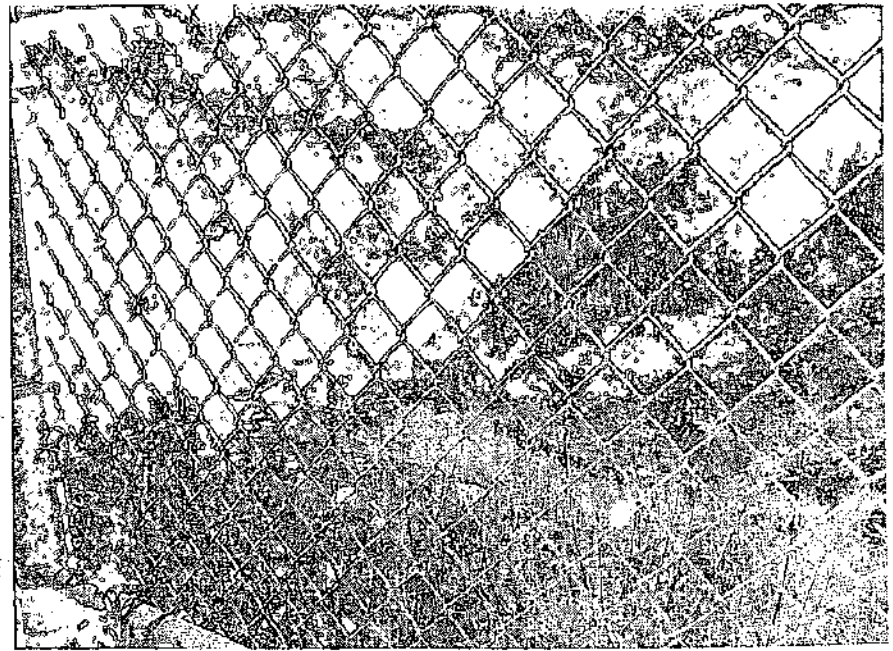


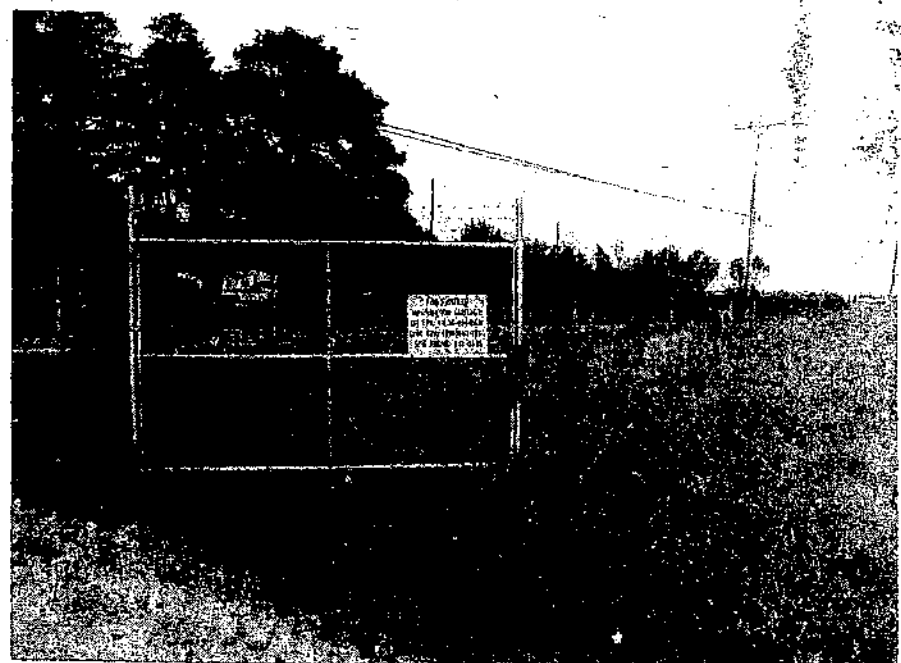
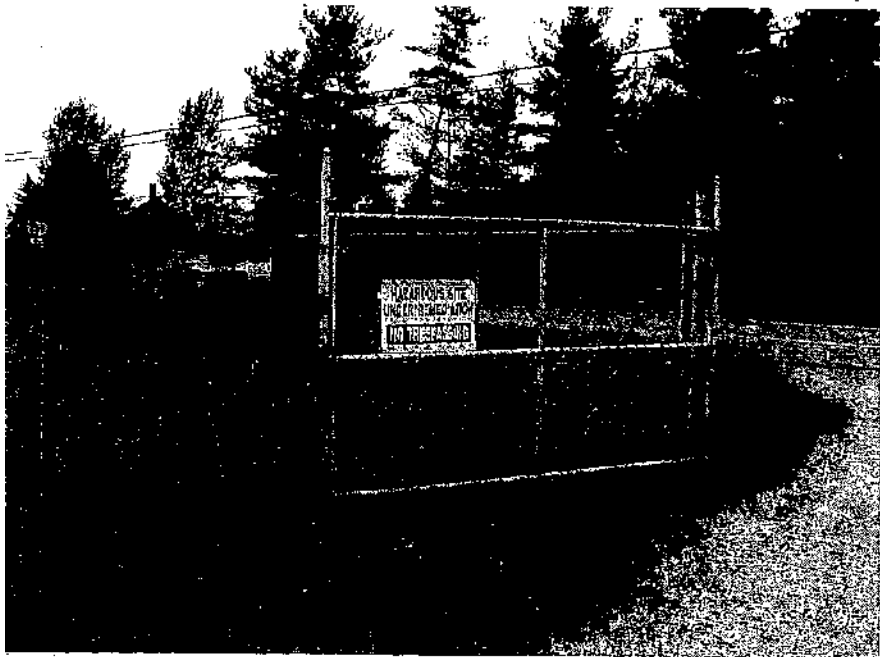


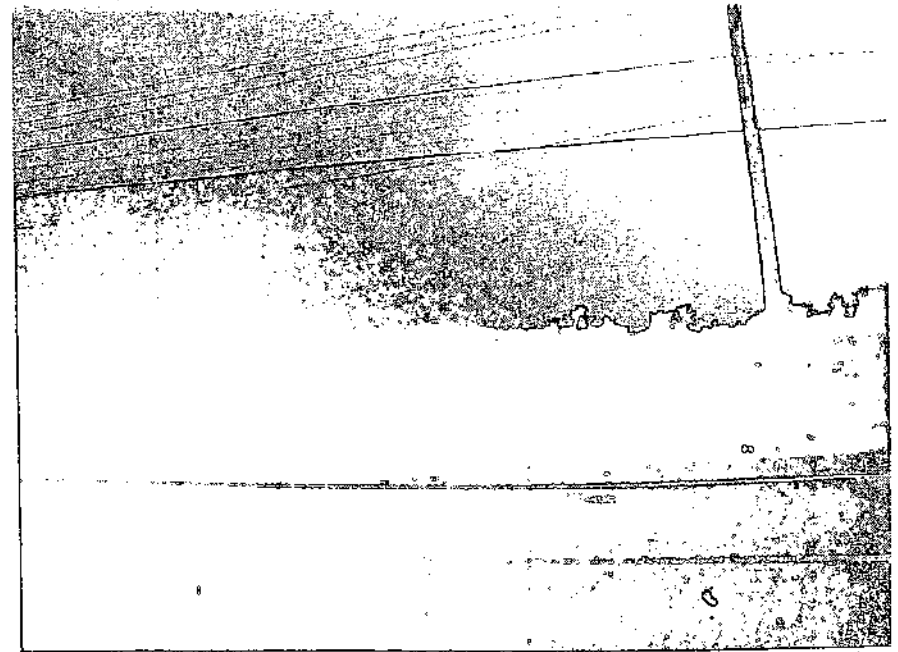
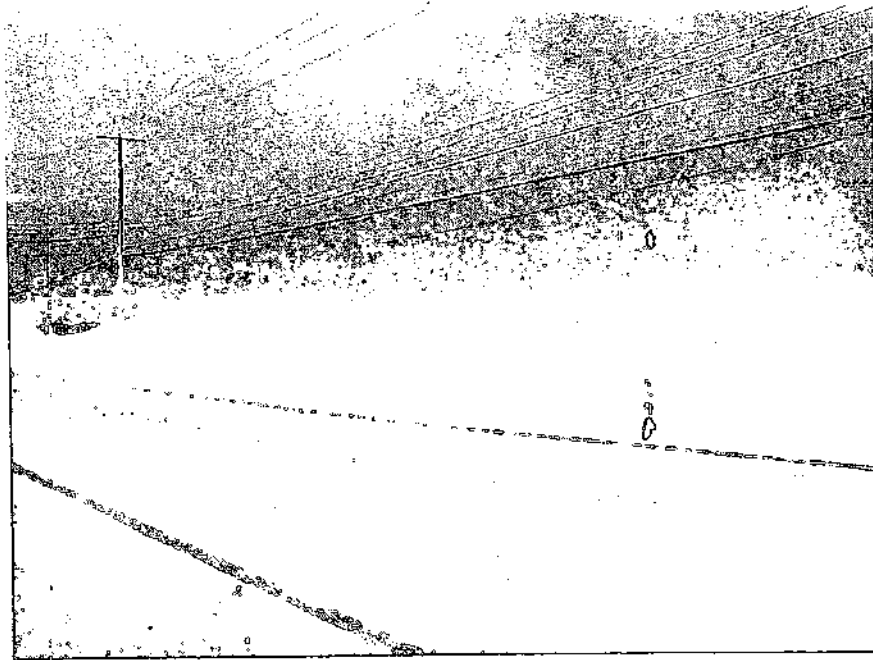
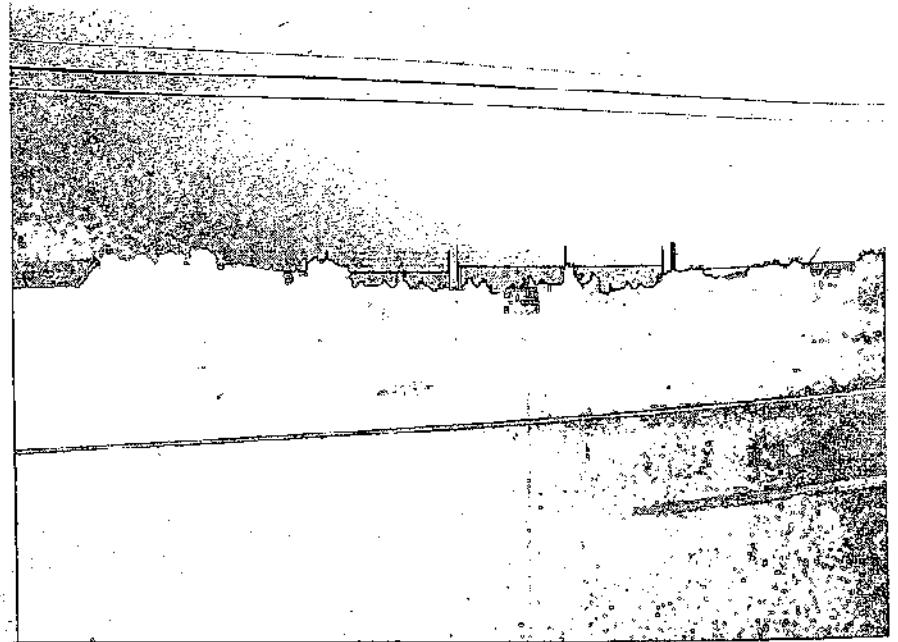
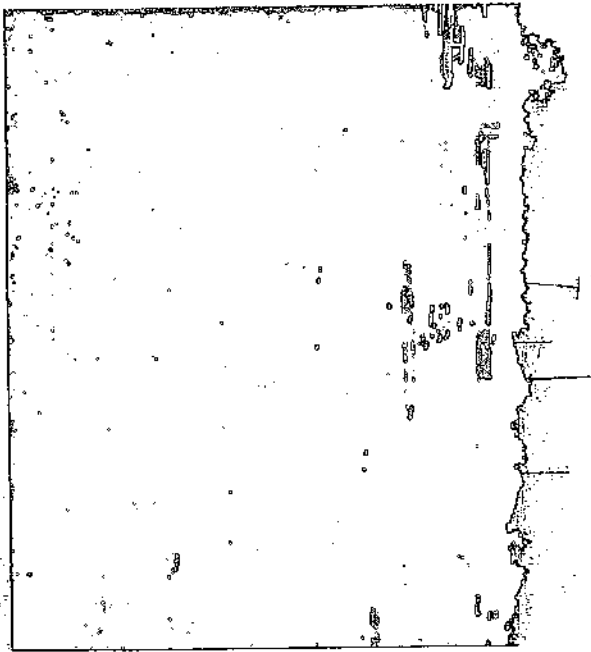












ATTACHMENT 6

PUBLIC NOTICE

Public Notice

The Ohio Environmental Protection Agency is conducting the second Five-Year Review for the Summit National Superfund Site (aka Deerfield Dump) near Deerfield in Portage County. This review is required by federal statute and is routinely done for all Superfund Sites beginning five years after the start of remedial construction and every five years thereafter. The purpose is to ensure that the remedy continues to comply with environmental regulations and remains protective of human health and the environment.

Remedial construction began in 1993 to address soil and ground water contaminated with a wide variety of volatile and semivolatile chemicals, heavy metals, waste oil and some PCBs. Several years earlier a large number of drums and above ground storage tank contents were removed and disposed of off-Site. The final remediation consisted of thermal treatment of contaminated soil, a ground water collection system with on-Site water treatment to contain and gradually remediate ground water, and finally a clean soil cover and fence to prevent direct contact. The remedy has been in continuous operation since 1994.

The scheduled completion date is September 23, 2003. Anyone interested in the final Report or who wants to provide information about the Site can call Regan S. Williams at (330) 963-1210, or write to me at Ohio EPA, 2110 East Aurora Road, Twinsburg, OH 44087.

ATTACHMENT 7

**COMPARISON OF CURRENT PERFORMANCE STANDARDS TO PROJECTED
FUTURE STANDARDS**

SUMMIT NATIONALGROUND WATER PERFORMANCE STANDARDS							
Chemical	Cas #	ROD Performance Standard	Current Standards*				MCLs
			Ingestion Pathway	Basis	All Pathways	Basis	
		ug/L	ug/L		ug/L		ug/L
Benzene	71-43-2	2.99E+00	1.20E+00	Ca	3.40E-01	Ca	5.00E+00
Chloroethane	75-00-3	2.94E+00	1.50E+04	NC	4.60E+00	Ca	
1,2, Dichloroethane	107-06-2	9.40E-01	7.40E-01	Ca	1.20E-01	Ca	5.00E+00
Tetrachloroethylene (PCE)	127-18-4	1.67E+00	1.30E+00	Ca	6.60E-01	Ca	5.00E+00
Trichloroethylene (TCE)	79-01-6	7.74E+00	1.70E-01	Ca	2.80E-02	Ca	5.00E+00
Vinyl chloride	75-01-4	4.00E-02	2.20E-02	Ca	2.00E-02	Ca	2.00E+00
Note:							
Ca: Carcinogenic Risk							
NC: Noncarcinogenic Risk							
* Single Chemical standard, calculated at a carcinogen-risk of 10 ⁻⁶ and HI of 1							
Toxicity values source: IRIS and USEPA Region 9, standard default exposure factors for a residential population used							
The TCE standard is based on a draft health assessment; the values may change							
Chloroethane has an inhalation RfC on IRIS, and an oral RfD from NCEA; clarification has been requested re the SF							
Vinyl chloride in ground water is assessed based on risk to children							

ATTACHMENT 8

TABLE OF ARAR's

TABLE 10.1

**COMPLIANCE WITH APPLICABLE OR RELEVANT AND APPROPRIATE
LAWS, REGULATIONS, POLICIES AND STANDARDS
SUMMIT NATIONAL SUPERFUND SITE
DEERFIELD TOWNSHIP OF PORTAGE COUNTY, OHIO**

Page 1 of 8

<i>Law, Regulation, Policy or Standard</i>	<i>Source of Regulation</i>	<i>Applicability or Relevance and Appropriateness as Applied to Feasibility Study Remedial Alternatives (Tables 6-1 and 6-2 of Feasibility Study)</i>	<i>Applicability or Relevance and Appropriateness as Applied to Final (100% Complete) Design</i>	<i>Final (100% Complete) Design Compliance with ARARs</i>
<u>FEDERAL</u>				
Resource Conservation and Recovery Act (RCRA)	RCRA Subtitle C, 40 CFR 260	RCRA regulates the generation, transport, storage, treatment, and disposal of hazardous waste. CERCLA specifically requires (in Section 104(c)(3)(8)) that hazardous substances from removal actions be disposed of at facilities in compliance with Subtitle C of RCRA.	40 CFR 260 establishes the regulatory framework for 40 CFR 261 through 268. Testing results (TCLP) under 40 CFR 261 will determine compliance requirements for ash and groundwater treatment sludges, if these materials are determined to be RCRA characteristic solid wastes.	Section 7.7.13 & 7.8.5 Draft O&M Plan
Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities	RCRA Section 3004, 40 CFR 264 and 265	Regulates the construction, design, monitoring, operation, and closure of hazardous waste facilities. Subparts N and O specify technical requirements for landfills and incinerators, respectively.	Portions of 40 CFR 264 and 265, Subpart N may apply to on-Site containment of incinerator ash if the ash is determined to be a RCRA characteristic solid waste. Portions of 40 CFR 264 and 265, Subpart O may apply to implementation of on-Site incineration.	Section 7.7.13 Section 7.7.2
Interim RCRA/CERCLA Guidance on Non-Contiguous Sites and Onsite Management of Waste and Treated Residue	U.S. EPA Policy Statement March 27, 1986	If a treatment or storage unit is to be constructed for onsite remedial action, there should be clear intent to dismantle, remove, or close the unit after the CERCLA action is completed. Should there be plans to accept commercial waste at the facility after the CERCLA waste has been processed, it is EPA policy that a RCRA permit be obtained before the unit is constructed.	Treatment and/or storage units constructed for on-Site remedial action should be dismantled, removed or closed after the remedial action is completed.	Section 8.5.12 of the RC Work Plan
Standards Applicable to Transporters of Hazardous Waste	RCRA Section 3003, 40 CFR 262 and 263, 40 CFR 170 to 179	Establishes the responsibility of offsite transporters of hazardous waste in the handling, transportation, and management of the waste. Requires a manifest, record keeping, and immediate action in the event of a discharge of hazardous waste.	Portions may apply to off-Site disposal of groundwater treatment sludges if they are determined to be RCRA characteristic hazardous waste. Portions may apply to off-Site disposal of PCB contaminated soils if they are not treated on Site.	Draft O&M Plan Section 7.7.14

TABLE 10.1

**COMPLIANCE WITH APPLICABLE OR RELEVANT AND APPROPRIATE
LAWS, REGULATIONS, POLICIES AND STANDARDS
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DEERFIELD TOWNSHIP OF PORTAGE COUNTY, OHIO**

Page 2 of 8

<i>Law, Regulation, Policy or Standard</i>	<i>Source of Regulation</i>	<i>Applicability or Relevance and Appropriateness as Applied to Feasibility Study Remedial Alternatives (Tables 6-1 and 6-2 of Feasibility Study)</i>	<i>Applicability or Relevance and Appropriateness as Applied to Final (100% Complete) Design</i>	<i>Final (100% Complete) Design Compliance with ARARs</i>
EPA Administered Permit Programs: The Hazardous Waste Permit Program	RCRA Section 3005, 40 CFR 270, 124	Covers the basic permitting, application, monitoring and reporting requirements for offsite hazardous waste management facilities.	Not applicable to selected remedy.	Section 7.7.14
EPA Interim Policy for Planning and Implementing CERCLA Offsite Response Actions	40 RF 45933 November 5, 1985	Discusses the need to consider treatment, recycling, and reuse before offsite land disposal is used. Prohibits use of a RCRA facility for offsite management of Superfund hazardous substances if it has significant RCRA violations.	Portions may apply to off-Site disposal of PCB contaminated soils if they are not treated on Site.	
Hazardous and Solid Waste Amendments of 1984 (1984 Amendments to RCRA)	PL 98-616, Federal Law 71:3101	Specific wastes are prohibited from land disposal under the 1984 RCRA Amendments. This includes a ban on the placement of wastes containing free liquids. Also, solvent containing wastes are prohibited from land disposal, effective November 1986. EPA is also required to set treatment levels or methods, exempting treated hazardous wastes from the land disposal ban. To date, these treatment standards have not been promulgated. The RCRA amendments will also restrict the landfilling of most RCRA-listed wastes by 1991 unless treatment standards are specified.	Hazardous and Solid Waste Amendments of 1984 have been incorporated into 40 CFR 261 to 268.	

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DEERFIELD TOWNSHIP OF PORTAGE COUNTY, OHIO

<i>Law, Regulation, Policy or Standard</i>	<i>Source of Regulation</i>	<i>Applicability or Relevance Appropriateness as Applied to Feasibility Study Remedial Alternatives (Tables 6-1 and 6-2 of Feasibility Study)</i>	<i>Applicability or Relevance and Appropriateness as Applied to Final (100% Complete) Design</i>	<i>Final (100% Complete) Design Compliance with ARARs</i>
National Pollutant Discharge Elimination System (NPDES) Permit	Clean Water Act Section 402, 40 CFR 122,123,125 Subchapter N	Regulates the discharge of water into public surface waters.	Portions may apply to surface discharge of treated groundwater.	Section 60) Health and Safety Plan in RC Work Plan
Toxic Pollutant Effluent Standards	40 CFR 129	Regulates the discharge of the following pollutants: aldrin/dieldrin, DDT, endrin, toxaphene, benzdine, and PCBs.	Not applicable as pesticides and PCBs were not identified as contaminants in the groundwater.	
U.S. EPA Groundwater Protection Strategy	U.S. EPA Policy Statement August 1984	Identifies groundwater quality to be achieved during remedial actions based on the aquifer characteristics and use.	Performance standards for groundwater remediation are specified in the Design Criteria Document.	
Conservation of Wildlife Resources	Fish and Wildlife Coordination Act	This act requires agency consultation prior to modifying any body of water.	Not applicable to selected remedy.	
Occupational Safety and Health Act (OSHA)	29 CFR 1910	Regulates working conditions to assure safety and health of workers.	Portions apply to all phases of remedial construction	
Underground Injection Control Regulations	40 CFR 146	None of the alternatives include the underground injection of materials.	Not applicable to selected remedy.	
Ocean Dumping Requirements	40 CFR 220-224 33 CFR 220, 224	Implementation of the alternatives does not include the dumping of any materials in the ocean.	Not applicable to selected remedy.	
Disposal of certain waste material containing TCDD(40 CFR Parts 260 to 267 Subpart J) Uranium Mill Tailing Rule	40 CFR Parts 260 to 267 Subpart J	The contaminated materials to be disposed of or treated in any alternative do not contain TCDD as a contaminant. The site contains no uranium mill tailings.	Not applicable to selected remedy. Not applicable to selected remedy .	

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<i>Law, Regulation, Policy or Standard</i>	<i>Source of Regulation</i>	<i>Applicability or Relevance and Appropriateness as Applied to Feasibility Study Remedial Alternatives (Tables 6-1 and 6-2 of Feasibility Study</i>	<i>Applicability Or Relevance and Appropriateness as Applied to Final (100% Complete) Design;</i>	<i>Final (100 Complete) Design Compliance with ARARs</i>
Radioactive Waste Rule - High- or low level		The site does not contain High and Low level radioactive waste.	Not applicable to selected remedy.	
Asbestos Disposal Rules	40 CFR 763	Asbestos was not measured at the site.	Not applicable to selected remedy.	
National Register of Historic Places	Archeological and Historical Preservation Act of 1974	Implementation of the alternatives will not affect sites on the register.	Not applicable to selected remedy.	
Wild and Scenic Rivers Act	40 CFR 6.302	Rivers on the national inventory will not be affected by alternatives.	Not applicable to selected remedy.	
Protection of Threatened or Endangered Species and Their Habitats	50 CFR 402	Implementation of the alternatives will not affect threatened or endangered species and their habitat	Not applicable to selected remedy.	
Conservation of Wildlife Resource	Fish and Wildlife Coordination Act	Implementation of the alternatives will not affect areas of important wildlife resources.	Not applicable to selected remedy.	
Coastal Zone Management		Implementation of the alternatives will not affect a coastal zone.	Not applicable to selected remedy.	
Toxic Substance Control Act	40 CFR 761	TSCA requirements apply to wastes containing PCB concentrations of 50 ppm or more. Site does not contain PCB at concentrations which would trigger TSCA requirements.	Portions of 40 CFR 761.6 may apply to off-Site disposal of PCB contaminated soils if they are not treated on Site. Portions of 40 CFR 761.7 may apply to on-Site incineration of PCB contaminated soils if they are treated on Site.	Section 7.7.14 Section 7.7.2
Permits for Discharges of Dredged or Fill Material Into Waters of the U.S.	Section 404 Permit	Implementation of alternatives does not call for discharge into U.S. waters.	Not applicable to selected remedy.	
Great Lakes Water Quality Agreement of 1978		Site not part of Great Lakes basin ecosystem.	Not applicable to selected remedy.	